TECHNOLOGY DEPT

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Inside Dope

By George F. Taubeneck

OPA's New Chief Talks Off-Key
Questions for Mr. Porter
Fallacy of His Logic
An Answer to the 'Party Line'
Let's Recite the A-B-C's Again
About Prices
You Answer These Questions
Planners Just Aren't Smart Enough

OPA's New Chief Talks Off-Key

Can it be possible that Paul Porter (new OPA chief) was correctly quoted recently when he stated that during the war, under price control, we doubled our production and hence, there was no reason why the same thing cannot be done now?

Does he know what he's talking about?

Of course, there were "theoretical" price controls on many items during the War; and there were *actual* price controls on *some* basic metals, etc.

But do you know of any fabricator or manufacturer who took these basic materials and put them into his product with *any restraint* on the price he quoted to the concern to whom he sold his product—whether he was a sub-contractor or a prime contractor selling direct to the Government?

Questions for Mr. Porter

Do you know *any* manufacturer who, during the war, was not able to *quote* and *sell* his wares at cost—no matter what that was—plus a fair return?

Isn't it a fact that the great bulk of business concerns, which now face serious reconversion problems, are those which converted their plants to make war products?

Isn't it true that *regardless of what* the war product *actually cost*, the price to the Government, or any other customer, provided a reasonable profit to the maker?

As labor, material, and overhead items of cost advanced during the war, were not these advances added to the costs and billed the customer?

Of course, if the estimated costs *and billing price resulted* in too great a margin, the concern was renegotiated.

Furthermore, its excess profits taxes cut down total profits, *but there was no price control* on war products, was there?

Now we all know that Paul Porter is not dumb.

In fact, he is probably smart, from his viewpoint, in trying to direct the public into thinking that "under price control we doubled our production in war time so there's no reason why we cannot continue at war time level of production."

But do you have any facts showing that manufacturers, who knew how to figure costs, did not recover *all* their costs and make a profit on their war business right up to the end of their contracts?

Fallacy of His Logic

Now, Mr. Porter may try to counter by reminding us that many manufacturers *reduced* their billing prices to the Government as they gained experience on war products.

Of course, this is true, and it's a natural condition. Their first costs were *estimated high enough* to make sure they would not go broke while they were getting started and, rather than wait for re-negotiation, many did reduce their prices but these prices *still* reflected their going costs *plus a margin.*

(In fact, many "gripers" are now telling about the "enormous" profits

(Concluded on Page 6, Column 1)

Air Cooling Div. Of Westinghouse Goes to Boston

PITTSBURGH—Manufacturing and engineering facilities of the B. F. Sturtevant Co., purchased by Westinghouse Electric Corp. last September, are being integrated with the facilities of the Westinghouse air conditioning division, which has been transferred from Jersey City to the Sturtevant main plant at Hyde Park, Boston.

Purpose of this integration move is to make possible the engineering and production of all the parts of commercial and industrial air conditioning systems in one plant setup of one company, Westinghouse officials declared.

Ellis L. Spray, Westinghouse vice president in charge of the Elevator and Air Conditioning Divisions of the corporation at Jersey City, has been elected executive vice president of the new organization, which is known as the B. F. Sturtevant Co. Division of Westinghouse.

Mr. Spray said that G. C. Derry, former vice president of the Sturtevant Co., has been elected vice president and general manager, and is responsible for the overall operation of the subsidiary. E. B. Williams, formerly vice president of the Sturtevant Co., continues in that office, with responsibility for continued development of the power and marine activities of the new subsidiary.

In addition to producing complete air conditioning systems, the new subsidiary will carry on the Sturtevant business in forced and induced draft blowers for power plants, marine application of fans and blowers, helical flow turbines, multiple air washers, speed heaters, multivane factory heaters, air blenders, dust collectors, railway air conditioning, and general air handling equipment.

Other manufacturing and assembly activities will be continued at former Sturtevant plants at Camden, N. J., at La Salle, Ill., Berkeley, Calif., and Galt, Ontario, Canada. The 42 offices of the Sturtevant organization will be retained and coordinated with Westinghouse distribution points.

Government Will Start Close Check On Job Training

WASHINGTON, D. C.—The Veterans Administration last weekend established some new procedures for controlling vocational training of G. I. veterans, aimed at "cracking down" on "bogus" G.I. training courses.

Officials of the VA declared the order calling for new procedures was aimed at "fly-by-night, gyp-joint" schools and job training places.

The directive calls for monthly checks by VA training officers on each veteran's progress, in both on-the-job training and schools.

Subsistence payments of $65 to $90 a month were ordered withheld from veterans failing to show satisfactory progress through a legitimate training course.

Under the new procedure VA will demand of each job-training establishment a written account of its training course. The course must lead to a definite position in a reasonable time, it was stated.

The order emphasized that Federal supervision was contemplated only of the veteran and his progress. Control and certification of training establishments must remain with the states under provisions of the GI Bill.

A warning was sounded against "subsidized labor" in some of the 44,000 business firms that have been certified as job-training establishments by State agencies.

Supply Problems In Limelight at Canadian Meeting

TORONTO, Ontario — More than 400 members and guests representing all phases of the refrigeration and air conditioning industry crowded into the King Edward hotel here March 17 and 18 for the seventh annual refrigeration education conference sponsored by the Interprovincial Association of the Refrigeration Service Engineers Society.

Repairmen naturally predominated, coming from all parts of Canada, but there was a goodly representation of dealers, parts and supplies wholesalers, and manufacturers, including a number from the United States, who participated in the down-to-earth discussions of practical problems in refrigeration servicing as well as sales and installation.

Between-sessions talks with those present indicated that the refrigeration supply situation in Canada is no better than in the states, except in some minor respects. Although dependent to a considerable extent on U. S. for products, Canada does produce a fair amount of equipment itself.

Speakers at the sessions covered a wide variety of subjects such as cold plate applications, evaporative condensers, heat interchangers, insurance problems, coils, air conditioning operation and service, operating a one-man service business, and general service problems.

In addition, two "Information Please" sessions conducted by H. S.

(Concluded on Back Page, Column 1)

Union Rejects Offer In Westinghouse Strike

NEW YORK CITY—An offer by Westinghouse Electric Corp. of a raise of 15.1 cents per hour was rejected on March 20 by The United Electrical Workers (CIO). The union is said to be insisting on an 18½ cents an hour raise.

However, the special Federal labor mediators on the job were hopeful that the nine-week strike might be settled soon, basing their hopes on the fact that the Westinghouse offer was the first evidence of any concrete proposal towards settling the strike.

Metals Supply Seen as Coming Major Problem

WASHINGTON, D. C.—Strikes are presenting a definite threat to the supply of copper and brass mill products—vital to continued high production in the refrigeration and appliance fields.

Only the mines of one major copper producer are operating. All but two of the nation's major copper refineries have been shut down by strikes. It is estimated that the present copper supply in the U. S. (adding exports to domestic production) is between 50,000 and 60,000 tons monthly. The monthly needs of the nation are estimated to be 115,000 tons.

Strikes in the brass mills will probably clear up quickly following the announcement that OPA has granted a price increase of 1½ cents a pound to the mills. It is expected that this will accelerate negotiations with labor unions who have struck in many of the eastern mills, seeking a wage increase.

Evidence that the steel industry may find difficulty in providing sufficient supply of its product was seen in the appeal issued March 14 by the Civilian Production Administration for the voluntary collection of 2 million tons of iron and steel scrap within four to six months to meet the needs for housing and the production of consumer goods.

Heads 'Rollator' Sales

W. S. LAW

* * *

Law Directs Norge Refrigerator Sales

DETROIT — W. S. (Bing) Law, just returned to civilian life after almost three and one-half years in the army air forces, has been appointed manager of refrigeration sales for the Norge division of Borg-Warner Corp., it was announced last week by M. G. O'Harra, vice president and general sales manager.

The appointment was made to fill the vacancy created recently when E. R. Bridge, formerly in charge of refrigeration sales, was named to the new position of merchandise manager.

With the exception of his years in the armed forces, Mr. Law has devoted virtually all of his professional activities to the promotion and sale of Norge household appliances, together with radios. He has spent 14 years in the business, having joined Reinhardt Bros. Co., Inc., Minneapolis, distributor in 1929.

Mr. Law started in the firm's automotive shop, later becoming an appliance salesman in the Twin Cities territory. He subsequently was promoted to assistant to the general sales manager and from 1935 until September, 1942, was sales manager of the company's Norge division.

He enlisted in the army air forces and was commissioned a first lieutenant. Upon his discharge from the service, he carried the rank of lieutenant colonel, and has just returned from Rio de Janeiro, Brazil, where he was a member of the joint Brazil-U. S. military commission.

Frozen Food Foundation To Meet March 28-30

SYRACUSE, N. Y.—First Annual Meeting and Presentation of the Frozen Food Foundation, Inc., will open here Thursday, March 28. Dr. Donald K. Tressler, food technologist, is scheduled to speak at the opening dinner of the three-day session.

Also featured on the Foundation's program for the meeting will be H. E. Babcock, farm authority, and Clarence Birdseye, frozen food pioneer. "Blueprints for Better Living," a presentation depicting the food industry $12 billion potential, will display frozen food equipment and sales methods to prominent department store representatives and other affiliate members of the Foundation.

During the session the Foundation's research and service laboratories will be open for inspection in addition to a local pilot plant home-delivery frozen food service.

A technical research and service organization sponsored by department stores in the United States and Canada, the Foundation has been attempting to improve the quality of frozen foods as well as develop new products for freezing.

G-E Schedules On Some Items Reveal Delays

Refrigeration, Appliance Production To Proceed As Fast as Possible

BRIDGEPORT, Conn. — Workers were gradually returning to their places in the plants of the General Electric Co. following the termination of the two-months' old strike, but officials of the company made it clear that no sudden resumption of high-rate production of refrigeration and appliance items was possible.

In a statement to the G-E field organization Charles R. Pritchard, general sales manager, declared:

"Dislocations caused by strikes will mean further delays in production. Many factory employes cannot be returned to their jobs until machines are reconditioned and the flow of materials resumed.

"On some commodity lines it may take several weeks to reach the same rate of production that had been attained prior to the strike.

"However, much preparatory work was accomplished during the strike in factory planning, the purchasing of materials, and product development which should help in a future accelerated program."

No specific statements on when refrigerator and range production might be in full flow again were forthcoming, but the following estimates on home laundry equipment were made by C. E. Anderson:

It will take an estimated 30 days before pre-strike production is attained.

There will probably be a 60-day delay before production gets underway on the new G-E automatic washer, and then only in small quantities.

The plant will get some production on flat-plate irons in June.

Non-automatic portable ironers will start coming off the lines in August, and a new ironer will probably be introduced at that time.

What Air Conditioning Dept. Will Make First

BLOOMFIELD, N. J. — Oil fired furnaces, coils, and condensing units are the items on which first production will be obtained as the Air Conditioning Department of General Electric Co. here swings back into action following the two-month shutdown resulting from the strike.

Condensing Unit Price Increase Action Put Off

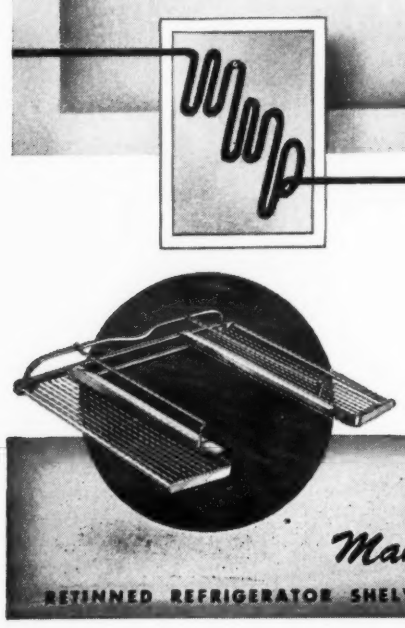
WASHINGTON, D. C.—Following a meeting of the OPA Condensing Unit Industry Advisory Committee here Monday it was predicted that it would be another three weeks to a month before any announcement would be made relative to a decision on an industry-wide manufacturers' price increase.

Champion Will Direct Coolerator Advertising

DULUTH, Minn. — The Coolerator Co. announces the appointment of Edgar R. Champion as advertising and sales promotion manager.

Mr. Champion, who recently received his discharge from the Army, has served as assistant to the president of The Gopher Ordnance Works, Minneapolis, before entering the service. Prior to that, he had been associated with Batten, Barton, Durstine & Osborn.

YES, THEY COST MORE-
BUT STAINLESS STEEL
REFRIGERATOR
SHELVES
GIVE A LIFETIME
OF SATISFACTION



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COMPANY

11333 GENERAL DRIVE
PLYMOUTH, MICHIGAN

Makers of STAINLESS STEEL AND
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3 Price Formulas Issued Admiral Distributors

CHICAGO — Three wholesale ceiling-price formulas previously handed to distributors of other major brands by OPA were recently given distributors of four models of household refrigerators manufactured by Admiral Corp.

The pricing methods are contained in Order 9, MPR 598. Admiral models affected are CS-746, CS-946, CD-746, and CD-946.

First method prescribed in determining ceiling prices to dealers is to use "the price which will yield the distributor the same proportion of the total dollar margin between the manufacturer's price to him and the dealer's price for resales to ultimate consumers in that zone as he received during the period Oct. 1-15, 1941, in connection with the sale of the most comparable model produced by the Stewart-Warner Corp. to the same class of purchasing dealer."

If this method is not applicable, then the distributor's ceiling price will be "the ceiling price established under this order for the sale by his 'closest seller of the same class.'"

Should both of these methods be inapplicable, the maximum price is to be determined "by marking up by 18.44% the sum of the manufacturer's price to him and his cost of transportation of the refrigerator from the manufacturer to him."

All of the methods pertain to sales to servicing dealers.

For sales to non-servicing dealers, distributors are authorized to add $8.25 to the ceiling prices established for sales to servicing dealers.

Manufacturers with Prewar Price Granted 5% Price Boost on Temperature Controls

WASHINGTON, D. C.—Manufacturers of automatic non-electric temperature controls having Oct. 1, 1941, prices can now increase these prices by 5% under a new section recently added to Order 48, MPR 591, by OPA.

(Included under the order are all types of expansion valves, water regulating valves, and various refrigeration accessory devices.)

The new section, added by Amendment 11, prohibits manufacturers of those controls not having an Oct. 1 price from increasing their prices without specific authorization from OPA. But they may apply for price modification, as directed in the amendment.

Excluded from the order are controls "designed specifically for and used primarily with ranges and industrial process equipment."

Use of the new section is optional. If the authorized increase results in prices lower than those established under MPR 591, manufacturers may continue to use existing ceilings.

RESALE PRICE INCREASE

Resellers are allowed to increase their prices in effect on Feb. 28, 1946, "by the percentage amount of . . . increase in acquisition cost resulting from the increase granted the manufacturer."

The amendment also allows manufacturers filing applications for adjustments in accordance with section 1.2 (a) or (b) to use the industry profit factor of 6.2%.

Manufacturers of controls not having Oct. 1 prices who desire adjustments to reflect increases obtained by other manufacturers are directed to file applications setting forth the following:

(1) Full description of the item. Cuts or detailed sketches should be supplied.

(2) Established maximum price for the item and the section and regulation under which the maximum price was established.

(3) If possible, the names of competitors marketing similar items for which they had Oct. 1, 1941, prices.

Such applications are to be filed with the Building Materials Price Branch, Office of Price Administration, Washington 25, D. C.

OPA DEFINITION

OPA defines the term, "automatic non-electric temperature control devices," as meaning those controls "responsive to liquid level, temperature, pressure, or humidity, and their related control devices and accessories, that have been especially designed for and normally used to control heating, ventilating, cooling, air conditioning, refrigeration, and domestic water heating equipment."

"Non-electric," OPA says, means those control devices "that are not actuated electrically nor whose principal function is the control of electrical circuits." Included, however, are "those control devices that are fundamentally a functional part of a non-electrical control system and are used to connect operationally a non-electric control system to electrical equipment."

Following are the items covered by the new section:

Group 1: Refrigeration control equipment:
A. Thermostatic expansion valves:
Thermostatic expansion valves with or without remote bulb, for use with all types of refrigerants.
B. Other refrigerant valves, for any type of refrigerant:
Automatic expansion valves.
Constant pressure valves.
Back pressure valves.
Suction pressure regulating valves.
Refrigerant float valves.
C. Miscellaneous refrigeration equipment:
Refrigeration water flow regulating valves.
Refrigerant relief valves.
Refrigerant distributors.
Refrigerant dryers, strainers, filters, oil separators, heat exchangers, etc.
Refrigerant injectors.

Group 2: Self contained or self actuated furnace and boiler draft damper regulators, not power driven, responsive to changes in steam pressure or air or water temperatures:
A. Boiler draft damper regulators:
Hot water heating boiler regulators.
Steam, vapor, or vacuum heating boiler regulators.
B. Domestic hot water heating boiler regulators:
All types and sizes for domestic hot water heating.
C. Warm air furnace and space heater regulators:
All types and sizes used for draft or check damper regulation on warm air furnaces and portable space heaters.

Group 3: Air, gas, or hydraulically actuated controls for heating, ventilating, or air conditioning systems:
A. Thermostats and humidity controllers:
Thermostats—wall mounted.
Thermostats—duct insertion type.
Humidity controllers—wall mounted.
Humidity controllers—duct insertion types.
B. Pneumatic relays:
Plain pneumatic relays.
Electric-Pneumatic relays.
C. Motorized valves and motors:
Pneumatic motors (valve and damper actuators).
Motorized (pneumatic) valves.
D. Miscellaneous equipment:
Indoor-outdoor temperature controllers.
Immersion liquid or air temperature controllers.
Pressure controllers.
Central control panels.
Diverting switches.
Accumulators.
Air-velocity controllers.

Group 4: Miscellaneous control devices:
A. Oil burner control equipment:
Oil burner oil pressure regulating valves.
Oil burner fuel units incorporating an oil pressure regulating valve.
Constant level flow control valves for regulating flow of oil to oil burners, and equipped with non-electric automatic motoring for flame control.
Constant level flow control valves, non-motoring type.
B. Self-actuated control valves:
Self-contained thermostatic steam radiator supply valves (not including vents or traps).
Combinations of self-actuated thermostats and valves.
Self-contained thermostatic gas valves, including those designed specifically for domestic water heater control.
Self-contained domestic hot water heater regulators consisting of valve and immersion thermostat, and safety control if necessary, when designed specifically for that purpose.
C. Gas pressure regulators:
Gas pressure regulators of all sizes and types normally used and supplied for regulating the pressure of natural, mixed, or artificial gas or liquefied petroleum gas in domestic and commercial installations.
D. Miscellaneous control equipment:
Non-electric boiler water feeders and injectors.

Group 5: Barometric damper regulators, but not including power-operated commercial and industrial sizes:
All sizes for portable space heaters.
All sizes for domestic central heating plants.
All sizes for commercial and industrial boilers not power-operated.

Group 6: Other miscellaneous non-electric controls, replacement parts, and subassemblies used with the items listed under groups 1 to 5 inclusive.

The multi uses of the Jeep were proven in the war. No obstacle was too tough to stop it for long. Developed and tested in war, Kold-Hold Serpentine Plates have the versatility to answer the varied needs of the Quick-Freeze field. Serpentine Plate construction eliminates the necessity for internal tubing and reduces weight per square foot. Whether used as plates or fabricated into liners or stands, Serpentine construction eliminates all joints, insuring uninterrupted circulation of the refrigerant and preventing oil logging. The Serpentine principle develops the highest rate of heat acceptance ever attained with natural convection lowsides. The varied applications of Serpentine Plates are:

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2. Used as Banks of plates in locker plants, cold storage rooms, sharp freeze rooms or in any installation where large capacities have to be pulled down fast.
3. Used as sharp freeze stands in locker plants. The flat sides mounted up in the stand units provide continuous, unbroken shelves.
4. Used as complete liners for storage cabinets and boxes, home freeze and other special units.
5. Used to convert fountains or cabinets at a fraction of the cost of expensive new equipment.

Write today for full information. Kold-Hold engineers will be pleased to recommend the equipment best suited for your needs.

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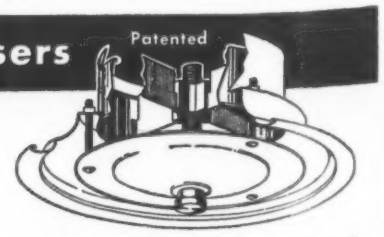
Adjustable Air Diffusers



For better mixing of room and supply air, more uniform temperature throughout the occupied zone and noiseless air diffusion.

Whether they are used in heating, cooling, ventilating or combined systems, Kno-Draft Adjustable Air Diffusers can be adjusted quickly and accurately for system balancing and individual or seasonal requirements. By simply turning the air adjustment screws (easily accessible from under the unit) the inner cone may be raised or lowered to secure any angle of air direction required. The built-in volume damper (regulated by the hand-turning knob under the diffuser) varies the air outlet aperture uniformly without affecting the outlet velocity of diffusion pattern.

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Free handbook: contains clear sketches, charts, dimension charts and instructive text that simplify the selection and installation of air diffusers. Please write Dept. A-13 for your copy, using your company letterhead.

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Edison G-E Appoints New Chicago Sales Head

E. H. RUESCH

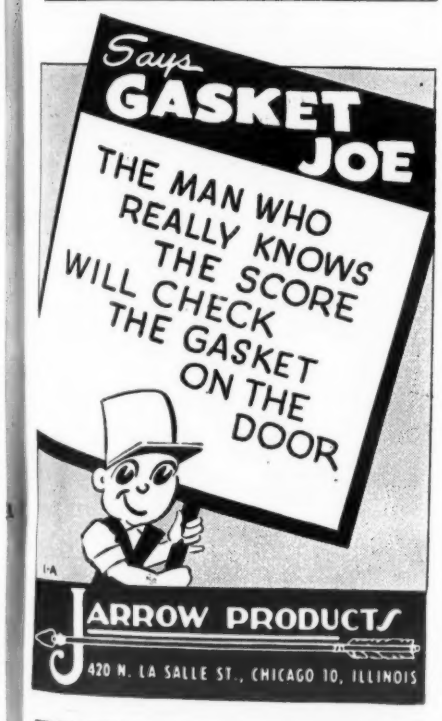
* * *

CHICAGO—E. H. Ruesch has been appointed Chicago district sales manager, Edison General Electric (Hotpoint) Appliance Co., according to W. H. BonDurant. Mr. Ruesch has been a sales specialist in various sales areas for the company since 1933. His headquarters are at the company's Merchandise Mart offices.

New Jersey Appliance Store Opened by Carney, Sylvester

BELMAR, N. J.—A new electrical appliance store has been opened here, at 1208 F St., by the New Jersey Appliance Co.

The new store is owned by Thomas H. Carney, Jr., of Neptune, and Daniel Sylvester of Belmar. Manager is Edward F. Sylvester, recently discharged from the Army after 25 months' service.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THE MAN WHO REALLY KNOWS THE SCORE WILL CHECK THE GASKET ON THE DOOR
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MASTERCRAFT
ADJUSTABLE
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NATIONALLY ENDORSED

Your refrigerator will be safe and snug as a baby in a blanket when you protect its lovely new finish with a Mastercraft Adjustable Refrigerator Pad. Priced at only $11.75 each, it's economical and it's built for durability.

The Carrying Harness at $8.50 each is also adjustable and provides an easy means of carrying any size cabinet.

Attractive lettering of your name on pad at $2.00 each extra.

Write today for complete folder and prices on pads for refrigerators, home freezers, washers, ironers, ranges, radios; also furniture pads and protective slipcovers.

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G-E Credit Corp. Reopens 7 Offices

CHICAGO — Offices of General Electric Credit Corp. in seven cities have been reopened as part of that firm's program of establishing additional representation to serve G-E and Hotpoint dealers, it was announced recently.

Southwestern District Manager L. E. Scott stated that the Kansas City, Mo., office is managed by W. D. McKinley and located at 105 W. 14th St. In New Orleans the GECC office is located at 404 St. Charles Ave., with E. S. Rockett in charge.

J. A. Foley, east central district manager announced the opening of the Pittsburgh office located at 717 Liberty St. under the direction of J. M. Wilson. The Cincinnati office is located at 617 Vine St. and managed by H. E. Davis.

Central District Manager R. R. Campbell stated that the Indianapolis office is situated in the Architects & Builders Bldg., 333 N. Pennsylvania St. managed by R. A. Cox, and the Minneapolis office is open for business at 12 S. Sixth St. under the managership of P. F. Manthey.

Opening of the Albany, N. Y. office located at 11 N. Pearl St. with W. Olesen as manager was announced by H. F. Yotz, northeastern district manager.

Robert Roden Files $50,000 Suit Against F. L. Jacobs Co.

DETROIT—Robert H. Roden has filed suit in Federal Court here against F. L. Jacobs Co., asking $50,000 damages.

In his suit Mr. Roden alleges that he was fired from his job Jan. 29 in violation of a contract under which he was to head the Jacobs company home appliance division at a salary of $25,000 a year. He had been paid that salary for one year as general sales manager, he declared.

The F. L. Jacobs Co. has introduced an automatic washer, and is said to be considering the production of other appliances.

Appliance Parts Jobbers Association Plans 3-Day Session at Des Moines

DES MOINES, Iowa—The Appliance Parts Jobbers Association will hold its seventh annual meeting in a three-day session at the Fort Des Moines hotel beginning April 29, it has been announced by Wilfred L. Cloutier, secretary-treasurer.

A national organization of wholesale jobbers of washing machine parts, the Association's program will include visits to several washer factories in and near Des Moines, a social program for members' wives, a dinner and evening of entertainment on April 30, and the election of new officers for the coming year.

With 39 members in various states, the Association has been active in the sales and distribution of authorized parts for all reputable makes, through centralized parts jobbers with one-stop sources of supply, Mr. Cloutier states.

Philco Stock Increase To Be Voted on May 17

PHILADELPHIA — Philco stockholders will be asked to approve at the annual meeting May 17 a proposed amendment to the corporation's charter by which the authorized capital stock of the corporation will be increased from 2,000,000 shares of common stock to a total of 3,370,057 shares, to consist of 250,000 shares of $100 par value preferred stock, 2,500,000 shares of $3 par value common stock, and 620,057 shares of $3 par value "B" stock.

The purpose of the proposed amendment, President John Ballantyne pointed out, is to make it possible for the corporation to secure by the sale of preferred or common stock such additional permanent capital as may be required from time to time by the rapidly expanding activities of Philco Corp. in the radio, television, refrigeration, home freezer, and air conditioning industries. "B" stock will eventually be cancelled.

One of a series of excerpts from the Hotpoint library of Planned Electrical Merchandising.

how DISPLAY sells appliances!

● SELLING is making people want things. In the appliance field, people are best sold when actually in the store looking at an effective display. There are simple ways to start a display on the right track. One of the easiest is to follow the method theatrical producers use in arresting attention:

Every chorus has a leading lady for us to *start* looking at—even though we may end up thinking a cute chorus girl in the back row is far more attractive!

● The same principle works in an effective refrigerator display. Give customers a place to start looking. Break the classic line-up of appliances. Place a refrigerator at each end of the line slightly on an angle. This frames the display. Center interest on a middle refrigerator by opening the door and pulling out a sliding shelf. Place this sign on it: "See how easily this shelf slides."

Open Speed Freezer door. Pull out a Pop-Ice Tray slightly and place sign below it reading: "Pop-Ice Tray simplifies removal of cubes. Ask for demonstration." High-spot other features with similar signs.

● Try the *chorus and the leading lady* idea for a display that sells for you.

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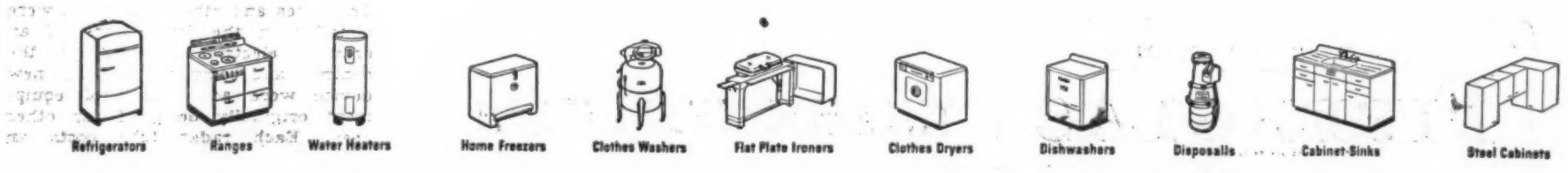
Hotpoint
HOME APPLIANCES
Dependability Assured by 40 Years Experience!



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Edison G-E Tests Indicate Experimental Electronic Range Impractical for Home

Efficiency Low, Cost High, Says J. C. Sharp

CHICAGO—Results of experiments on the first electronic range made and operated by engineers of Edison General Electric (Hotpoint) Appliance Co., Chicago, in cooperation with General Electric research and engineering laboratories and the industrial heating and electronics division of General Electric Co., Schenectady, N. Y., were announced recently.

The information developed by the experiments offers a "peep" into a vast new world of heating applications by radio waves" according to J. C. Sharp, vice president in charge of engineering for Hotpoint home appliances.

He asserted that even though the first domestic "radio range" had been made and tested "it is safe to say that housewives, as well as appliance dealers may disregard reports which indicate that a new cooking machine will replace the conventional range."

Some results of the recently completed studies that were announced recently are: an "electronic range" with only one unit for cooking would retail at more than $1,000. The electric stove which was adapted for the electronic devices retails at $116.95.

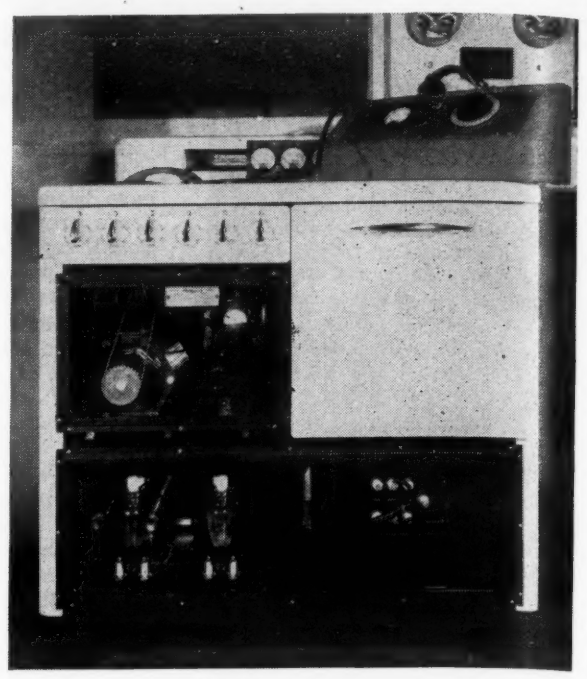
Mr. Sharp said that it should "be borne in mind that the electric range boils, stews, fries, roasts, bakes, and broils any and all foods with results that please the American housewife; whereas most foods cooked in the electronic unit are 'different' tasting than the conventionally prepared foods." He added that since the electronic or radio stove now has been built and operated, it is possible "to report results that are not as spectacular as pseudo-scientific writers have claimed for such devices."

One favorable result is that vegetables were cooked to palatable condition in less time than that required by conventional methods. But, the engineer pointed out that if cooking time were the only factor in using ranges that housewives cook on, possibly conventional ranges made today would be designed somewhat differently.

"Engineers have known for many years that materials could be heated in a high frequency field. Diathermy machines which heated human flesh were valuable tools of the medical profession. Heating machines for specialized jobs on metals had been developed. Plastics are heated when they are moulded and cured to the desired shape.

"Preheating the biscuits of moulding powder prior to their insertion in the final mould was practical and successful. The tremendous impetus given these latter usages by the production of war materials accounts for the more wide spread knowledge and interest in high frequency heating."

It was evident early in the Hotpoint experimentation program, that the problem divided into two broad fields. The first was the heating of precooked food and the second was the actual cooking of raw food. Precooked food could be heated to the desired temperature with little or no noticeable effects due to the method used.



The first electronic range was made in the Chicago engineering laboratories of Edison General Electric (Hotpoint) Appliance Co. This new type range, which cooks food by means of eddy currents induced in the food, is able to cook food much more rapidly than an electric range. Engineers, however, point out that the cost of providing the involved electric equipment, including transformers and radar tubes, makes the range impractical for home use.

An example of the advantage that has been made of this is seen in a vending machine that General Electric Co. and the Automatic Canteen Co. have developed that will soon be delivering sizzling hot dog sandwiches within a fraction of a minute after a coin has been inserted in the slot, the official said.

"Fortunately or unfortunately, the older generation in America demands a diet other than hot dogs, hamburgers, or grilled cheese sandwiches. These foods were all precooked and merely restored to the conventional temperature demanded by the rugged individuals who consumed them," he said, adding:

"The business of preparing foods in the home kitchen is really an art. The raw ingredients and the taste habits of the consumers introduce as many variations as there are homes. In fact, there are variations required within a single home where the cook has permitted the development of temperaments."

Mr. Sharp explained that the first efforts to cook raw meats by the high frequency method resulted in complete failure. The meats were cooked, if judged by the standards of food chemistry; but, judging by any ordinary American taste standards, the food was unpalatable.

When food is placed near a wire in an ordinary house system, nothing happens, the engineer noted, because the current in the wire is flowing in opposite directions, only 60 times per second. If the frequency of the reversals of the current is increased to several hundreds of thousands of times per second, there is a marked effect upon the food. There are eddy currents induced within the food, and the food resists the flow of these currents with the result that heat is generated. This action corresponds somewhat to "the action of ordinary 60 cycle current in the resistance wire coil of an electric range unit."

When meat is cooked by conventional methods, its temperature is raised throughout by heat driven in from the outside. Since the outside is subjected to the higher temperature and to the action of air for a longer time than the inside, it becomes crusted or browned, and "a very pleasant and distinctive flavor is the result."

Meat cooked by eddy currents actually is heated internally and, the outside, not being surrounded by high temperature air, does not become crusted or browned. The flavor, appearance, and texture is so different from those qualities of familiar foods that the meat is not palatable to the consumer, the report said.

After the unfavorable experience, the engineer said that attempts to cook raw meats were discontinued. The first trials of vegetable cooking disclosed that the input of power had to be held to low levels, due to the food burning.

As a basis for the electronic range, the engineers used radar tubes that had been developed during wartime. It was possible, Mr. Sharp said, to apply power at frequencies of several hundred million cycles per second. The tubes and other equipment were installed in the frame-work of an ordinary electric range. All of the controls and components of the new device were adaptations of equipment originally designed for other uses. Each radar tube costs an amount "almost equal to the retail cost of an electric stove," he said.

In conclusion, Mr. Sharp said that the electronic range appears to "have a doubtful future for domestic use." The first cost, as well as the cost of operation, its limited scope, and its low efficiency are all handicaps. He added that "there are many experiments in progress across the country on commercial and industrial uses."

TABLE 1

Food	Method	Time (minutes)
Beets	High Frequency Radio	11.50
"	Conventional Electric	37.25
Broccoli	High Frequency Radio	10.50
"	Conventional Electric	15.50
Carrots	High Frequency Radio	8.50
"	Conventional Electric	17.50
Cauliflower	High Frequency Radio	11.50
"	Conventional Electric	13.50
Green Peas	High Frequency Radio	10.50
" "	Conventional Electric	17.70
Potatoes	High Frequency Radio	14.50
"	Conventional Electric	25.00
Spinach	High Frequency Radio	8.50
"	Conventional Electric	12.30

TABLE 2

Food	Method	Energy (watt-hours)
Beets	High Frequency Radio	320
"	Conventional Electric	147
Broccoli	High Frequency Radio	248
"	Conventional Electric	99
Carrots	High Frequency Radio	201
"	Conventional Electric	97
Cauliflower	High Frequency Radio	273
"	Conventional Electric	80
Green Peas	High Frequency Radio	248
" "	Conventional Electric	100
Potatoes	High Frequency Radio	351
"	Conventional Electric	116
Spinach	High Frequency Radio	202
"	Conventional Electric	80

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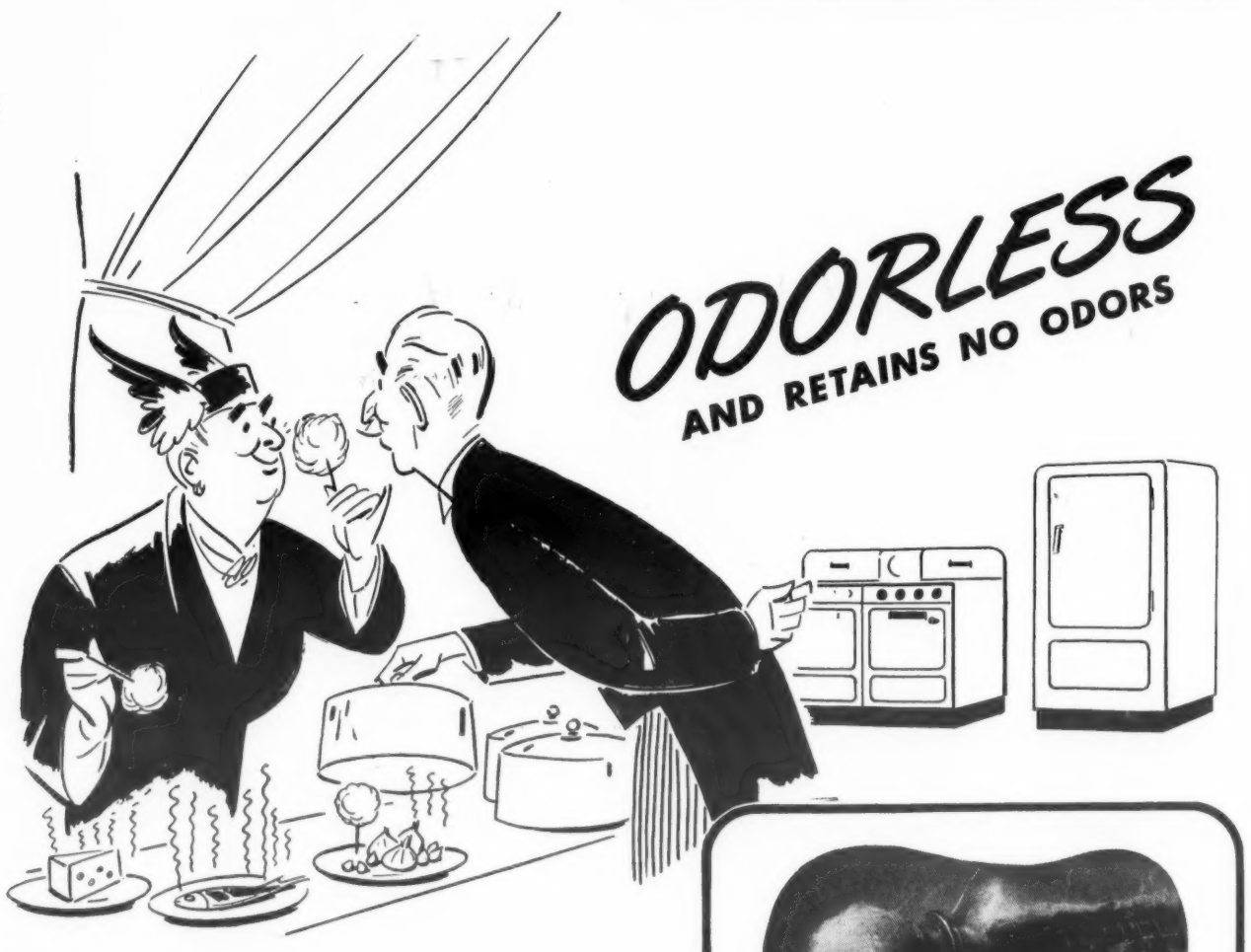
of FIBERGLAS insulation



No question about it, you have a real *sales advantage* when you offer customers home equipment insulated with *FIBERGLAS.* A "top feature" before the war, Fiberglas is even more of a standout today—*proved* through exceptional performance in thousands of tough war jobs as well as in millions of prewar appliances in the home.

Yes, you'll find that many of your customers know all about this better "lifetime" insulation. So, be sure to tell them "It's insulated with Fiberglas" if you want easier selling and better satisfied customers for future business.

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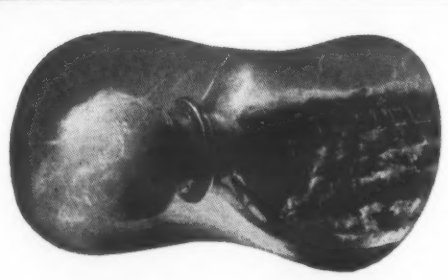

DID YOU KNOW...

Fiberglas is used in making penicillin, to trap air-borne bacteria and prevent contamination of the culture. Fiberglas—actually, fine glass fibers—is clean, odorless, immune to time and decay. As such, it is easily sterilized (important in penicillin uses) and offers no food for vermin.

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VISOLEAK detects even the smallest leaks before they cause damage to expensive refrigeration systems. Years of use prove it safe, economical, easy to use.

NEW CHARGING SET

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CHAPTER 6

HOW TO COMPENSATE RETAIL APPLIANCE SALESMEN...

salary? commission? combination?

Salary?

Commission?

Combination?

In the book *"The Selection and Compensation of Retail Appliance Salesmen"*... a vital part of Kelvinator's great Vocation-in-Sales Program... the chapter devoted to compensation will prove of intense interest and value to dealer and sales managers alike.

The whole purpose of Kelvinator's V. I. S. Program is to help the dealer solve such problems... and this section on compensation deals thoroughly with the fundamentals of this important retail problem.

This is another phase of the V. I. S. program that came directly from the 100 years of retail sales experience represented at Kelvinator's Retail Sales Management Forum... the practical experience of leading appliance retailers, department, furniture store and utilities executives, as well as Kelvinator sales executives.

A glance at the sub-headings used in this chapter will show the broad nature of the study Kelvinator has made of this subject—they are:

- STRAIGHT SALARY
- STRAIGHT COMMISSION
- COMBINATION PLAN
- HOW MUCH SALARY AND COMMISSION SHOULD BE PAID?
- FORMULA FOR DETERMINING AMOUNT OF COMPENSATION
- EXAMPLE SHOWING APPLICATION OF FORMULA
- AMOUNT IN SALARY VS. AMOUNT IN COMMISSION
- USE $'s INSTEAD OF %'s FOR BEST RESULTS IN STEP-UP SELLING

Here again is solid retail-minded thinking along sales-management lines... and it is typical, not only of Kelvinator's entire V. I. S. Program, but of Kelvinator's whole approach to the problems of the retailer—an approach that has made the Kelvinator Franchise...

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LOOK AHEAD WITH RETAIL-MINDED

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DIVISION OF NASH-KELVINATOR CORPORATION

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N-K MUSICAL SHOWROOM Nash-Kelvinator's new hit musical show, with the Andrews Sisters, Curt Massey and Guest Stars—every Wednesday evening at 10:30 P.M., E.S.T. —Columbia Broadcasting System.

Inside Dope

By George F. Taubeneck

(Concluded from Page 1, Column 1)
made by *all* Industry on war contracts.)

Can't you see the fallacy of Porter's position as it is applied to manufacturers who stopped civilian production in 1941 and early 1942, and then "went to war" with accompanying *higher costs* for practically *everything* they bought and sold in '43, '44, and '45

Even a schoolboy recognizes what happened to costs for these manufacturers, and he *knows* that these concerns cannot survive at 1946 costs of labor, material, and overhead if they are forced to sell at 1941-42 prices.

An Answer to the 'Party Line'

Totalitarians are fond of saying that "the people" make the decisions in a democracy. This statement is based on the doubtful theory that 10 men who know nothing about a subject will reach sounder conclusions than one or more men whose life work it has been to deal with and make decisions regarding it.

Never has the problem of business in government been more difficult and more complex than it is today. These complexities will persist and become more intensified in a civilization dominated, as ours will be, by new inventions and the revelations of science.

Our need for great men to inhabit high positions in both industry and government—men who have a lively appreciation and understanding of new industrial and scientific processes, and the intricate and complex relationships they engender—was never more apparent and more real than it is today.

Business and political statesmen used to deal with distinctly separate fields. Today they deal with the same problems in the same fields.

Government activities now extend to, and regulate every kind and form of all industrial activity. And they limit and direct their management in daily decisions and operation.

Nevertheless, the prime function of government continues to be that of regulation, while that of industry continues to be in the field of operation.

No matter how carefully it may be devised, regulation is almost always repressive—repressive of initiative, of enterprise, and of that freedom of judgment and action which is the essence of management.

Moreover, in the view of government, the cure for bad regulation and of unworkable regulation is always more regulation.

The real reason that governmental regulation does not work well is that it must be universally applicable. So, it cannot possibly be flexible enough generally to apply without great hardship, handicaps, and discrimination in some regions or in some segments of industry or society.

Another infirmity of regulation is that it, by hypothesis, applies to both the good and the bad. Those who wish to comply are equally burdened with those who do not. Under these circumstances, those who do comply are at a competitive disadvantage compared with those who do not. Violations by those who do not wish to comply compel violations by those who desire to be "good fellows."

There are two essentials to the workability of any imposed-from-above regulation.

First, general acceptance by the people whose activities are to be regulated, and second, enforcement against violation.

If the regulation does not break down because of complexities, or because of differences in the methods and practices of those to whom it applies, it usually breaks down because it can't be enforced.

Poor enforcement of price regulations is notorious. This lack of enforcement, and the consequent widespread violations, soon lead not only to competitive disadvantages, but to lack of confidence in government per se and in contempt for law.

The cure for this situation is not more regulation, but less. Governmental regulation should be relaxed and eliminated as rapidly as possible —toward the end of restoring a free competitive economy.

Let's Recite the A-B-C's Again

Prices cannot be controlled unless wages are controlled. Wages cannot be controlled unless profits are controlled. If profits are limited, production will be limited, because production and the dollar volume and the turnover it creates is the measure of profits.

So, "the people" will not have the prosperity to which they are entitled. And, shortages will continue to make regulation necessary. Thus, the cycle ends and begins all over again.

Profits aren't a magic spout of riches which can be turned off and on like water in a faucet. They result from a great variety of inter-related and intricate factors—not the least of which is prescient management.

Small businesses which must undergo government regulation are almost always at a disadvantage. Their choice too often is between violation and bankruptcy.

The trouble with regulation is that the virtuous and the vicious are all classed together. Every species of business feels its deadening hand. The curse of regulation, like the "blessed rain from heaven," falls alike upon the just and the unjust, but with unequal baneful malediction.

About Prices

The problem with which every manufacturer presently is confronted is the establishment of a balance between volume, cost, and price that will produce a profit over all operations.

None of these factors is wholly within his control. All of them are subject to inherent uncertainties—because the actions of labor and consumers and government are so unpredictable.

Volume rests on ability of the manufacturer to establish sufficient consumer acceptance so that he can reach a specified goal—either at a predetermined price or a competitive price.

The balance between price and volume is extremely delicate. It depends on the judgment of field representatives and the experience of management over a long period of years.

When there are injected into this difficult equation the uncertainties and limitations of price ceilings—based on national statistical averages, or prices established three years ago under entirely different cost and competitive conditions, and wage rates dictated by government fiat—the position of the businessman becomes precarious, indeed.

You Answer These Questions

Why is it inflationary to increase the price of automobiles, and not inflationary to increase the wages that go into the manufacture of those automobiles?

More people have more money right now than they ever had before. Twelve million people have received a substantial increase in wages by the simple expedient of removing them completely from the federal tax rolls.

Most everyone else has had a substantial increase in salary as a result of decreases in federal income taxes. (The advantages of these increases are most largely in the lower income brackets). Everyone has had relief from deductions from wages and salaries for the purchase of war bonds. Savings banks are full of money. People are literally trampling on each other to buy the few goods that are available.

A 1941 model automobile, if you can get one, costs you about as much as a new one would *if* you could get a new one.

What difference does it make if the price of new automobiles is somewhat higher than were the prices before the war? Isn't it better to be able to get a new automobile with the money that is burning a hole in your pocket at an increased price than not to be able to buy an automobile at all?

After all, the money people pay for automobiles goes to provide more jobs and better wages.

Within limits, the more dollars there are, and the faster these dollars turn over, the more dollars there are to pay wages and buy materials.

And, so long as these dollars are created by production, and not by government fiscal policy, they do not represent inflation.

Present strikes could have been settled almost overnight if the government would take its "dead hand" off business and permit a sufficient increase in the prices of particular commodities to afford the opportunity and the incentive to produce in maximum volume.

There will be more competition in the automobile industry, and in the refrigeration industry generally—once they get going, than there ever has been before. And this competition will serve to keep prices down—indeed, probably to make those prices constantly lower in terms of real values.

Planners Just Aren't Smart Enough

This stalemate between rival sets of "planners" is causing enormous losses to industry and wage earners alike. And what is even more important, it is causing a dreadful loss of time, enthusiasm, and confidence—prime economic factors which are necessary elements in producing prosperity.

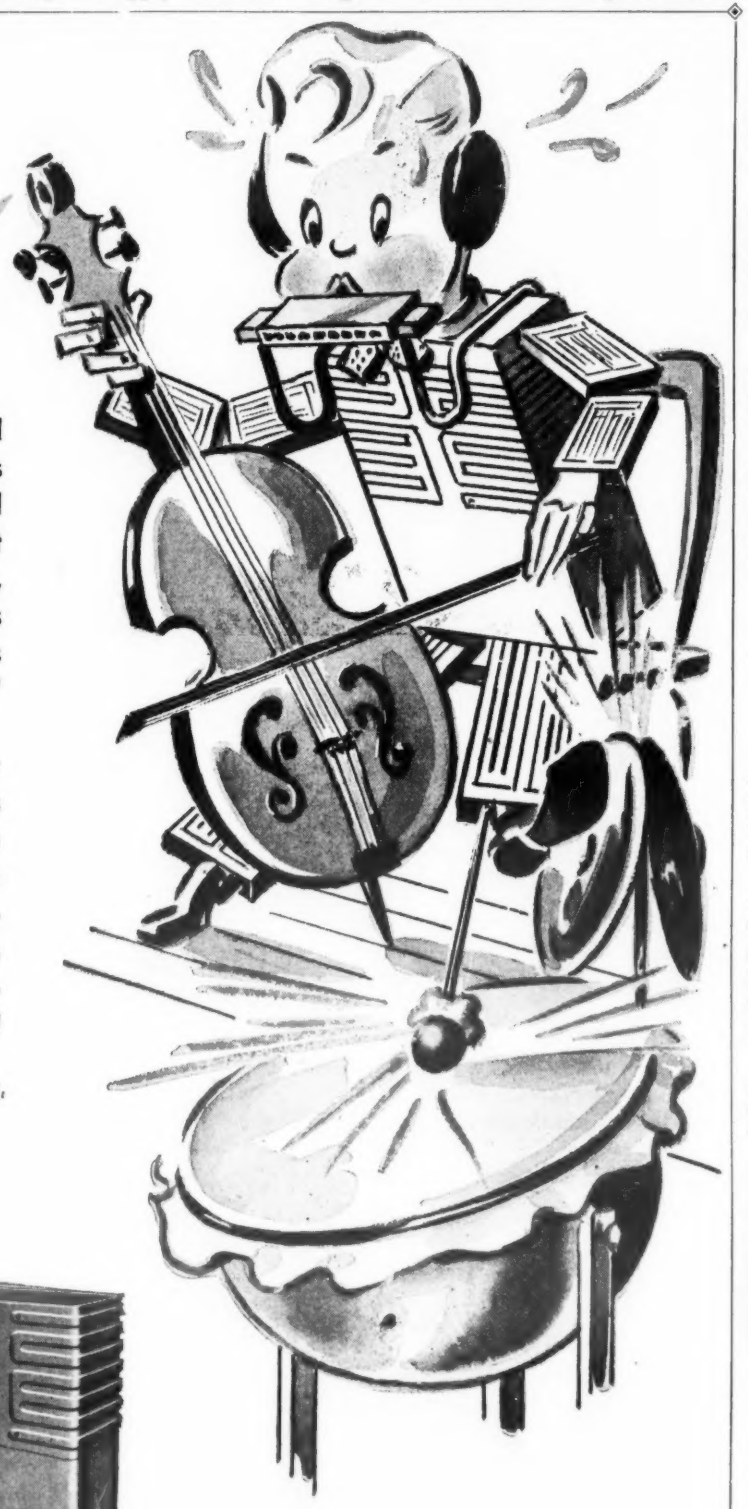
If continued long enough, the inevitable aftermath of this *cul-de-sac* will be a depression such as we have never seen before.

If our government acts wisely to mitigate and to remove the limitations, the handicaps and the disruptions that a planned economy engenders, we shall move into a period of development, progress, and prosperity such as the world has never known.

The initiative, enterprise, skill, know-how, tools, equipment, finance—everything we need—are all present (or can readily be provided) under a free economy.

The Promised Land is before us—a new world—a veritable fairyland of new products, new comforts, new conveniences, new luxuries, and new entertainments.

To enter this Promised Land, it remains only for America's voters to insist that their government give us the green light and a clear track.



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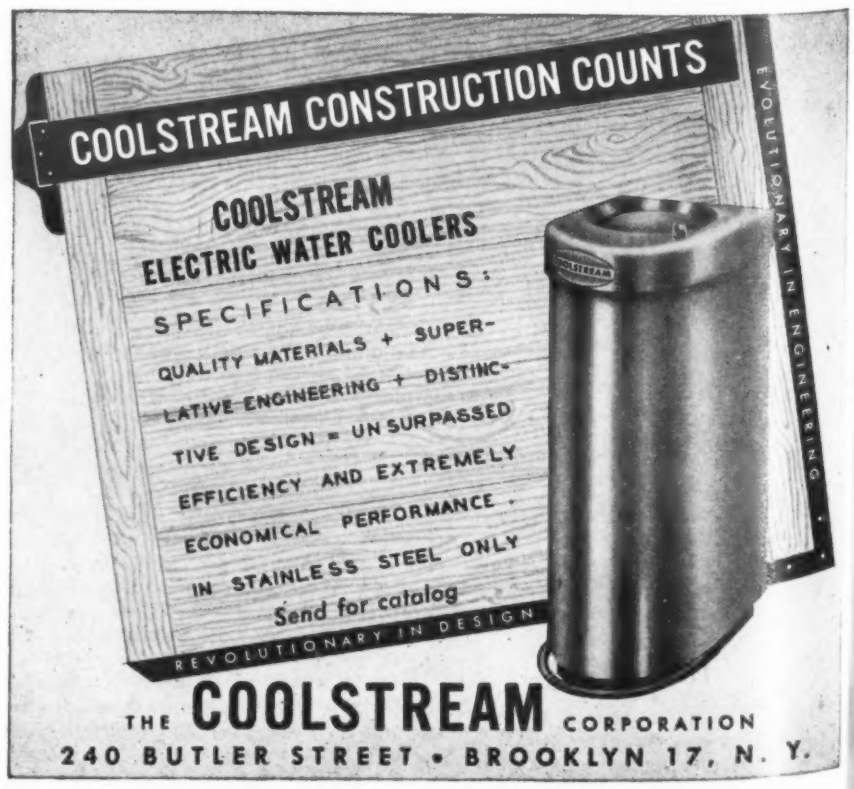

THE COOLSTREAM CORPORATION
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Dehydration In Storage Is One of Chief Problems Confronting Engineers

BALTIMORE — "The science of refrigeration has been built largely around the compressor," said David L. Fiske, national secretary of the American Society of Refrigerating Engineers and late major in the U. S. Army, in addressing some 60 members of the Baltimore-Washington section of ASRE on March 7.

"And yet of the two broad classifications—precooling or chilling, and holding—the latter has raised the greater problems," Mr. Fiske stated. "Cold storage offers a fair example. A need for keeping fixed temperatures for months on end continuously raises the question of whether use of a blower is practical."

Forced draft is good for holding apples, where air circulation is needed to cut down chemical reaction in the packed apples, he illustrated; but it tends to dry out eggs which are porous.

CONSTANT RELATIONSHIP

Granted, if there is no great heat removal, there is no great moisture removal, he admitted. That has been recognized since 1922, when Lewis of M.I.T. proved that the rates of diffusion for heat and for moisture bear a constant relationship.

But it is no less true that there is an immediate rapid dehydration when a current of air is passed over food that is not naturally or artificially sealed against evaporation, Mr. Fiske stated. He drew an illustration of two refrigerators each holding a moist head of lettuce, each head weighing say 30 ounces.

"Refrigerator A uses a gravity coil and baffle; refrigerator B uses a duplicate coil and a blower," he diagrammed. All other conditions are the same, he continued—box temperatures of 70° F., relative humidity in the boxes 50%, duplicate refrigeration unit, cycle and load.

"Nevertheless," he pointed out, "once the boxes have been run for an hour or so, and the temperature in each has reached about 40°, the head of lettuce in A will weigh perhaps 27 ounces; the head in B will have dropped somewhere below 10 ounces.

"What has happened to the moisture in the second head?" he asked. "When you take heat from food you take out moisture, but here the amount of heat subtracted in each case has been the same!"

The answer lies not alone in the difference in air velocity in the two refrigerators, he explained, but also in the time element involved. The rule was written back about 1800, by Dalton, Mr. Fiske stated: "When air is blown over a wet surface, the degree of evaporation is increased at a rate equal to the square root of the velocity of the air.

In the long run, he added, the difference in weight between the two heads is lessened. With velocity, drying is faster in B, but in time the air in the two boxes ends up with the same relative humidity, and the two heads will weigh the same.

If the temperature in a cold storage room is kept at a constant low temperature and high relative humidity, there will be no weight loss, Mr. Fiske said. But potential maximum moisture content rises as room temperature rises, and when the temperature shifts up and down, as in a chilling room subjected to varying loads, blower action will exaggerate relative humidity differences.

UNSATISFACTORY ROOMS

Rooms used for both chilling and holding thus have proved unsatisfactory, he stated, especially where foods with different degrees of natural insulation against evaporation are concerned. The two kinds of processing should be done in separate rooms.

Cold storage problems in this instance are a reflection of the industry's immaturity in other fields, Mr. Fiske said. "Refrigeration is an established science, but we are just beginning to apply the principles of air conditioning correctly."

A discussion of refrigeration's increasing participation in the field of medicine, particularly in the treatment of shock and as an anesthetic that is doing a job never done before, was outlined by Ross Potter, associate editor of the NEWS.

ASRE's need for an abstract system was emphasized by Alfred Chadburn, of Cincinnati, advertising manager of *Refrigeration Engineering*.

Master-Bilt Purchases 3-Story Bldg. In Move To Expand Freezers

ST. LOUIS—A three story building formerly occupied by a unit of the Emerson Electric Co. has been purchased here by Clarence J. Hunter, Robert P. Sludder, and Harold J. Klawitter, operators of the Master-Bilt Refrigeration Mfg. Co.

Builder of refrigeration units ranging from milk coolers to walk-in boxes, the firm plans to expand its postwar operations in the field of home freezers designed for rural home trade, it was said.

With basement included, the newly acquired building will provide 55,000 sq. ft. of floor space which company spokesmen said would be devoted primarily to the new lines.

From 20 to 25 additional personnel will be employed.

Leitner Equipment Moves Into New Chicago Factory Site

CHICAGO—Leitner Equipment Co., food and beverage service equipment manufacturer, has moved into a new factory at 2326 S. Canal St. here, according to an announcement by T. L. Spring, president.

With completely modern production facilities Leitner hopes to be able to meet the demand for its products soon, said L. Katzman, secretary-treasurer.

The Leitner organization observed its fortieth anniversary this year.

Freon Condensers • Dry-Ex Water Coolers • Evaporative Condensers • Forced Convection Units • Oil Separators • Liquid Receivers • Heat Exchangers • Pipe Coils • Hi-Peak Water Coolers • Flooded Water Coolers • Ammonia Condensers
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Excellent Opportunities for

4 REFRIGERATION ENGINEERS

We have immediate openings, with splendid opportunities for advancement, for four experienced engineers, as follows:

ASSISTANT CHIEF ENGINEER: must have long and successful record of accomplishment in development of all types of low sides and enclosures in both domestic and commercial refrigeration; must be resourceful in originating new designs and be able to carry through all phases of development; must have faculty of getting along well with associates and subordinates.

PROJECT ENGINEER: must have successful record in originating and carrying through complete projects, with reasonably long experience in development of commercial low sides and in sheet metal design for enclosures.

CHIEF LABORATORY ENGINEER: Must have long experience in directing all phases of work in test laboratory.

TEST ENGINEER: young man with experience in running laboratory tests on all types of refrigeration equipment.

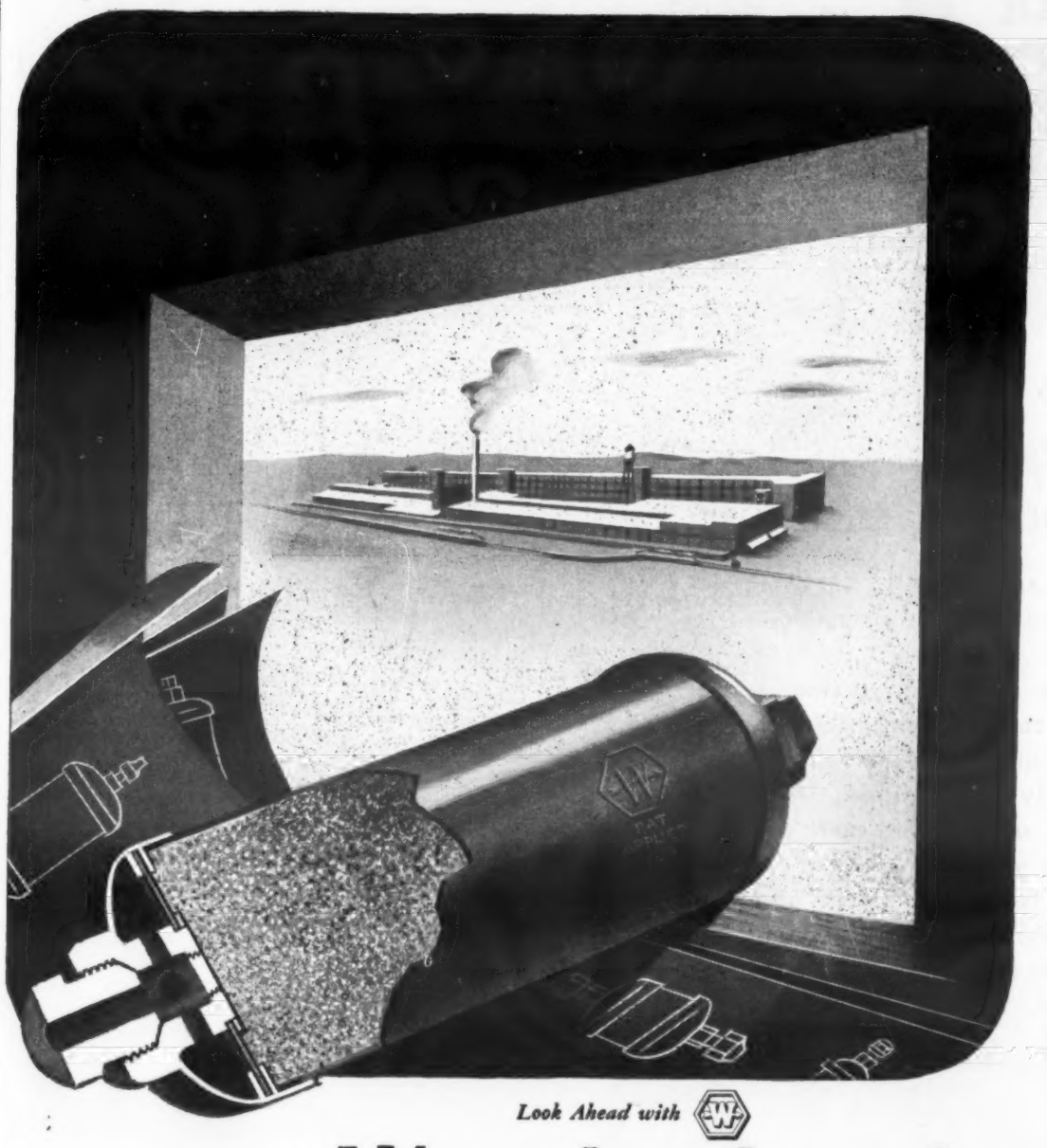
Please reply by mail, giving complete details as to age, education, experience, salary expected and list of specific projects you have handled. All replies will be treated as strictly confidential.

Personnel Manager

The LIQUID CARBONIC CORPORATION
CHICAGO 23, ILLINOIS

Improved REFRIGERATION DRYERS

Weatherhead dryers using Silica Jel are made in both the rechargeable and non-rechargeable types. No felts or organic filters are required. Instead, a generous number of fine mesh stainless steel screens are used. Full flow is assured even at zero temperatures. The Weatherhead line of *improved* refrigeration products is available now.



In addition to refrigeration dryers, Weatherhead also manufactures complete lines of valves, manifolds, fittings, drain cocks and other products for the following industries:

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Plants: Cleveland, Columbia City, Ind., Los Angeles, Canada—St. Thomas, Ontario
BRANCH OFFICES: NEW YORK • PHILADELPHIA • DETROIT • CHICAGO • ST. LOUIS • LOS ANGELES

Patented

Your Own Plant Will Give You More Production and Better Quality . . .

NIAGARA Duo-Pass AERO CONDENSERS provide a sure method of increasing the refrigeration capacity of a system that has been in use for several years. Its increased condensing capacity, made into a permanent gain by the exclusive Duo Pass pre-cooling method, results in both power savings and extra refrigeration capacity for your compressors. Using outdoor air as the cooling and condensing medium, the Niagara Aero Condenser removes 1000 BTU from the refrigerant gas per pound of water consumed, providing a saving in the cost of condenser water that quickly returns the cost of installation.

Write for Bulletin 91, for complete information.

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Field Engineering Offices in Principal Cities

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Prepackaged Meat, 'Serve-Self' Frozen Food Cases Featured at New A & P Super Market

10 Open-Type Cases Reduce Customer Congestion

GROSSE POINTE, Mich.—Advertised as the "super market of tomorrow," a new market has been opened in this wealthy Detroit suburb by A & P Tea Co. featuring a prepackaged, self-service meat department, open type refrigerated produce racks and frozen food cases, and other applications of refrigeration.

In all, 10 open-type refrigerated cases and two conventional cases are employed in the new market.

The pre-packaged self-service meat department in this market is more or less of an experiment, according to A & P officials. Two open-type cases made by Tyler Fixture Corp. provide refrigerated display. These cases adjoin two conventional Tyler meat cases where butchers cut, wrap, and sell meat in the usual manner.

PACKED AT WAREHOUSE

Fresh cuts of Grade A meat are packaged at an A & P warehouse in open cartons wrapped in cellophane with the weight and price marked on the outside. The customer merely has to reach in to select the package herself. The cases are fitted with a mirror set at an angle which is hinged to permit loading from the back.

A check by the NEWS on a busy Friday morning when the market was crowded with weekend shoppers showed that nearly every person who bought meat had selected at least one pre-packaged item. Some customers has purchased meat from only the regular counter while others had packages from both.

Although the store was filled with shoppers, there were no crowds around the self-service meat section, or around the other self-service departments, either, while there was a considerable lineup at the regular meat department.

Rather than indicating that the self-service departments were not popular, the crowding at the conventional meat market probably results from the customers' having to wait for (1) a clerk to wait on them, (2) the cutting, weighing, and wrapping after the customer has indicated the cut of meat she wants.

All fresh fruit and produce, with the exception of such staples as potatoes, oranges, cabbage, etc., is displayed in four open-type Hill refrigerated cases, which extend 44 ft. along one side of the market. The fruit and produce are not prepackaged. Additional storage space is provided in the lower section of the cabinets.

One of the clerks in the produce department said that these refrigerated cases were very satisfactory. "We have to pull very little produce at the end of the day because of spoilage," he added.

FROZEN FOOD DEPARTMENT

Two serve-self frozen food cases have also been installed in the market. One is a Birdseye case manufactured by the American Radiator Co., which is set back to back with a Hill open case. Both cases are equipped with plate-type evaporators which divide the storage and display case into small compartments.

In addition to displaying a wide variety of frozen foods in a number of brands, this department is also experimenting with ice cream packaged in pint size cartons.

Two open-type Hill dairy cases are installed in the store for self-service sales of all types of dairy products, including cheese.

Commenting on the new market, J. A. O'Donnell, A & P vice president, said, "This single store combines the practical results of several years of experimental work. Although several of the innovations in this store are still in the experimental stage, we are convinced that this type of complete food outlet will be the accepted in the near future."

Have You Ordered Your Copy of the 1946 Refrigeration & Air Conditioning Directory? . . . . Price $1

Freezer Prices

Red Devil Electric Co.

SEATTLE—Two models of home freezer units manufactured by the Red Devil Electric Co. here were priced by OPA at the following ceiling levels:

Model	On sales to— Distributors	Dealers	Consumers
12.5 cu. ft. ¼ hp. condensing unit	$230	$276	$460
15 cu. ft. ¼ hp. condensing unit	260	312	520

Universal Refrigeration Co.

LOS ANGELES — Retail ceiling price for sales of Universal Refrigeration Co.'s freezer, Model M-75 (a 20.5-cu. ft. unit having a ⅓-hp. condensing unit), is $658, according to OPA Order 337, MPR 591. On sales to distributors and dealers, the maximum prices listed by OPA are $329 and $395, respectively.

"Never mind the store—save my BUSH COOLER!"

Firm Plans $450,000 Storage Warehouse

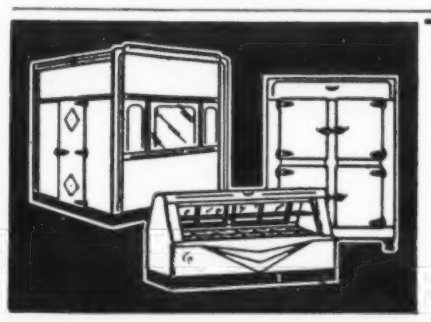
PHOENIX, Ariz. — Frozen food storage rooms and fruit and vegetable cold storage rooms are included in the plans for General Sales Co.'s completely air conditioned warehouse and merchandising building now under construction here, according to George Hepburn and H. R. Keeton, heads of the firm.

Scheduled for completion by Aug. 1, the $450,000 building is being erected just outside the city limits at Seventh and Grant Sts. adjacent to the Southern Pacific Railroad tracks. It will be built of reinforced concrete containing 1,603,000 cu. ft.

Frozen food storage rooms will be built in the basement along with the necessary refrigerating machinery. The fruit and vegetable cold storage rooms will occupy the floor above, together with the air conditioning units that will serve the entire structure. On the second floor the company plans a model grocery store.

The warehouse, with four bays 50 x 220 ft., will have a 15 ft. ceiling. It will be so planned that a continuous towline conveyor system 1,600 ft. long can be installed, thereby mechanizing the movement of stock to any loading or unloading point.

AMERICA'S
No. 1
FREEZER
The Original
DRAWER TYPE FREEZER
Freez-All engineers, like all other refrigeration engineers, were told, "Drawers won't work . . . they'll freeze." But they kept working . . . built dozens of experimental models, put them in the field . . . gradually — definitely, there emerged a home freezer with "drawers you can open with 1 finger." Freez-All was the original drawer type freezer. Copiers must try to catch Freez-All's three year lead.
FREEZ-ALL
REFRIGERATION DIVISION
PORTABLE ELEVATOR MFG. CO.
BLOOMINGTON, ILLINOIS
DEPT. 55
FIRST . . .
Now the home freezer selling field is wide open and anxiously waiting for delivery. This means that in the first months of "hog wild" buying — selling will be a snap. But, when the leveling off period arrives, you, as a dealer, will need a product second to none in order to maintain sales quotas. You need a leader in the field of refrigeration and Freez-All is just that . . . First in public acceptance. Nothing equals the sales advantages of Freez-All drawer type construction.
The 8 cu. ft.—Model 80 Freez-All has 3 large storage drawers below and a roomy sharp freeze compartment above.



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INQUIRE NOW ABOUT OUR COMPLETE LINE

INTERESTING PROPOSITION TO QUALIFIED DISTRIBUTORS

A FEW TERRITORIES STILL AVAILABLE

FOGEL REFRIGERATOR COMPANY
5400 Eadom St., Philadelphia 37, Pa.
Since 1899

Community Research May Test Use of Locker Plant for New Type of Storage

ITHACA, N. Y.—"The most important phase" of a long-range study of community frozen food services—announced by Cornell university in May, 1945—is under way in Ithaca, N. Y., where Cornell, several leading suppliers of freezer equipment, and nine New York state public utility companies are cooperating to learn the effect of an abundance of frozen foods and home freezer services on the business and home life of a community.

In the course of this study, the Carrier Corp., Philco Corp., Emil Steinhorst & Sons, Inc., Sears Roebuck & Co., and the Cooperative Grange League Federation Exchange, with headquarters in Ithaca, are giving Ithaca and surrounding Tompkins County first priority on all home and farm freezer equipment which they distribute. These suppliers have promised to "saturate" Tompkins County with all the still-scarce home freezers and storage cabinets which its residents will buy or rent.

WILL QUESTION USERS

Special interviewers from Cornell University's School of Nutrition, calling on families who obtain freezer equipment, will ask, over the next several months, questions relating to every phase of use of the cabinets.

Out of the experiment are expected to come the facts which will enable manufacturers to build the best possible food freezing and storage equipment, and users to get the maximum benefit from it, nutritionally and otherwise.

To stimulate community interest in the project, Tompkins County residents attended two special "opening-day" ceremonies earlier this month.

Open house was held at "Mother Zero"—Ithaca's pilot food freezing and processing plant—where all five cooperating suppliers displayed their freezer equipment; and a special program was put on at Bibbins Hall, educational center of the G.L.F. in Ithaca.

At Bibbins Hall, a 300-person "live" audience and a county-wide radio audience heard O. C. Vieweg, representing the nine public utility companies which are giving their financial support to the experiment, assert: "This study may well set up new standards of living for our entire nation."

Mr. Vieweg recalled the statement of H. E. Babcock—Ithaca agricultural leader and president of the Cornell University Board of Trustees, who often is called "the father of the farm freezer"—that much attention is being given to the proper feeding of animals, but comparatively little to the proper nutrition of human beings.

BETTER FARM MARKET

With wide-spread use of frozen foods, Mr. Vieweg claimed, "the farmer will have a better market for his products. The consumer will get better diets resulting in better health and better living. To workers in industry it means new jobs. . . . Industry also benefits through new manufacturing, new transportation, and new distribution." Better nutrition, he added, makes for contentment and peace among individuals and among nations.

The Bibbins Hall program also included talks by Dr. L. A. Maynard, Director of the Cornell School of Nutrition, and T. E. Milliman, Director of Research for the G.L.F.

New developments in the field of frozen foods are particularly important in making more effective use of the basic knowledge we now have for providing our people with better diets, Dr. Maynard declared. He listed these objectives of the Cornell experiment:

"To study the kinds of frozen food services and equipment which are needed in the community, on the farm, and in the home; to provide foods which are more palatable, more nutritious, and more convenient to use; to chart the procedures from production to the consumer's table which will most effectively accomplish these objectives, and thus to provide information of value to all of the industries concerned, to the food trade and to the producer, as well as to the consumer.

LABORATORY STUDIES

"During recent months," Dr. Maynard added, "our research has been focused on laboratory studies dealing with nutritional, engineering, biochemical, and cooking aspects of food freezing, as well as problems of economics and food production and selection. These studies will continue and will supplement this new program in achieving the overall objectives."

Mr. Milliman disclosed some interesting facts regarding the operations of Mother Zero, which is owned and operated by the G.L.F. "Up to now," he said, "the services most desired had to do with the slaughtering, preparation, wrapping, freezing, and holding of animal products.

"Even farmers want slaughtering service.

"Repeatedly, and with increasing conviction, people have said that if they had Mother Zero to do the processing and freezing, and possessed a cabinet at home for storage, all of their needs would be fully met. . . .

"One of the interesting angles of the project," he believes, "will be to discover to what extent the more than 900 locker renters at Mother Zero will surrender their space in favor of buying or renting home cabinets.

"Mother Zero encourages cancellation of lockers in order to provide space for another line of research. We would like to determine the extent to which a freezer locker plant is useful to the community in providing space for the bulk storage of frozen foods, including commercially frozen items, as a service not only to farmers and urban dwellers, but to food merchants and public eating establishments, as well," Mr. Milliman concluded.

Frozen Food Jobbing Firm Formed In Nebraska

LINCOLN, Neb. — Articles of incorporation for a new frozen-food jobbing firm have been filed with the secretary of state under the name of Select Sea Foods, Inc., with Grand Island as the principal place of business.

A refrigerated storage plant will be maintained at Grand Island and the firm will buy, sell, and brokerage sea foods of all kinds and other frozen food products. Authorized capital stock is $25,000 and incorporators are A. L. Danitz, G. Pat Brown, Bert J. Emery, Charles F. New, Harold R. Hines, and Thomas W. Lanigan, all of Grand Island.

Air Conditioning 'Guide' Revised by ASHVE

NEW YORK CITY—The twenty-fourth edition of the Heating Ventilating Air Conditioning Guide published by the American Society of Heating and Ventilating Engineers, is just off the press.

The technical text contains 51 chapters grouped under the general section headings of Principles, Human Reaction to Atmospheric Environment, Heating and Cooling Loads, Combustion and Consumption of Fuels, Heating Systems and Equipment, Air Conditioning, Special Applications, and Installation and Testing Codes.

New chapters have been added on Fluid Flow, and on Owning and Operating Costs. A comprehensive listing of more than 75 codes for testing, rating, selecting, and installing heating, ventilating and air conditioning equipment has been added to the chapter on Codes.

Properties of moist air and of water from the most recent cooperative research of ASHVE and Towne Scientific School of University of Pennsylvania are given in tables in the range of -160° F. to +212° F. An enlarged removable Mollier Diagram for Moist Air prepared by John A. Goff is included.

New material from Society sponsored research on air flow in outlets has been added to the chapter on Air Distribution. A new air friction chart based on studies made at the ASHVE Research Laboratory has been prepared for the chapter on Air Duct Design.

ATTENTION!
FOOD FREEZERS
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FOR STORE—FARM—HOME
SIZES 10—15—20 CU. FT.
•
Sturdy construction—latest in design—full flooded refrigerated liner. Economical operation. Ace Freezer storage cabinet is designed for tomorrow. Literature upon request. Dealer franchises available in some areas.
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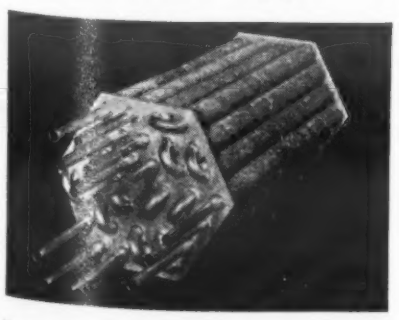
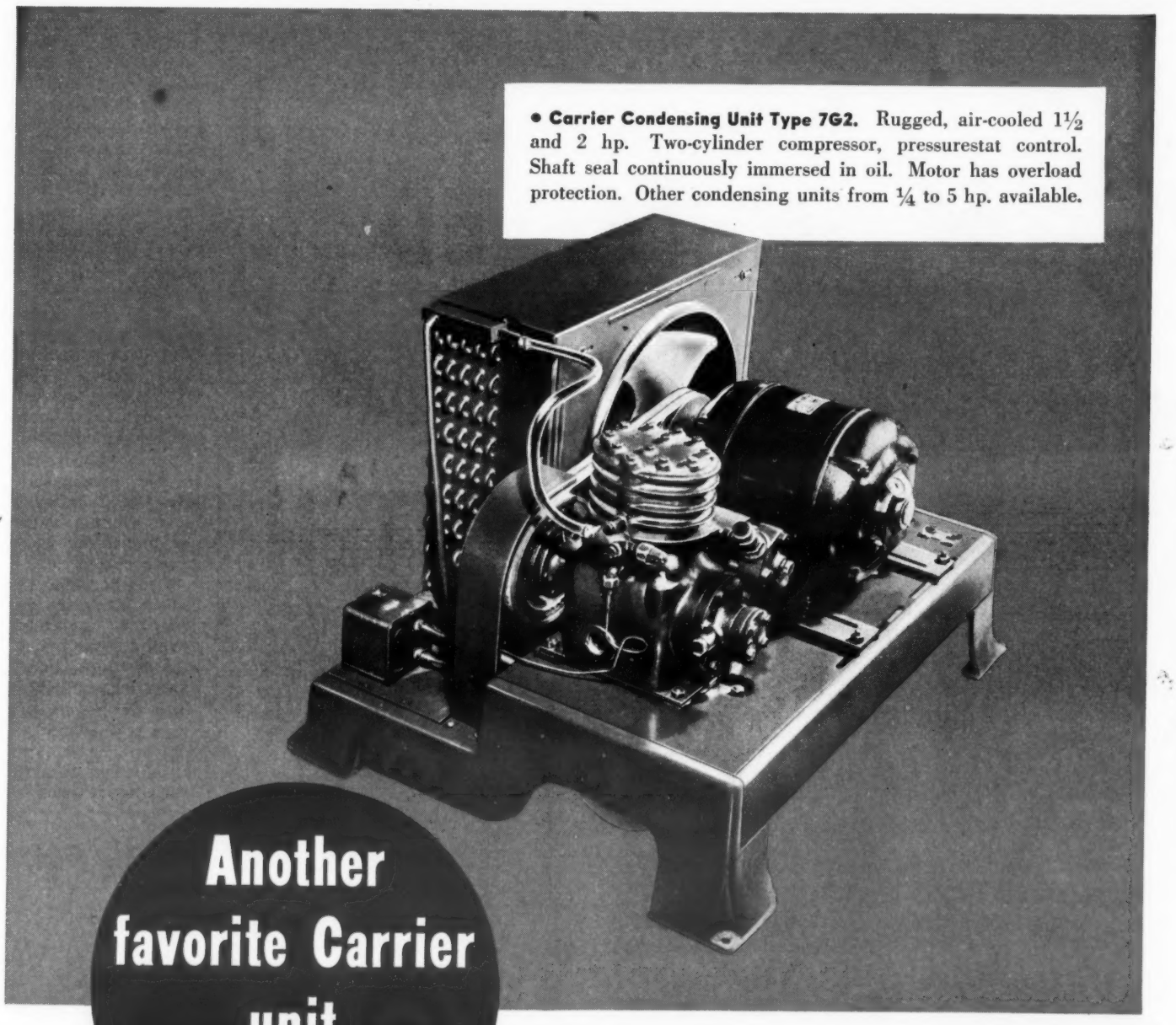
FREEZERS, INC.
235 E. 42nd St., N. Y. City

ROME-CONDENSER
★ Jointless Type ★



Rome Water Cooled Condenser Coils insure trouble-free condensing equipment. Used by leading compressor manufacturers.

ROME-TURNEY
RADIATOR COMPANY
222 CANAL ST.
ROME, N. Y.


• Carrier Condensing Unit Type 7G2. Rugged, air-cooled 1½ and 2 hp. Two-cylinder compressor, pressurestat control. Shaft seal continuously immersed in oil. Motor has overload protection. Other condensing units from ¼ to 5 hp. available.
Another favorite Carrier unit is back!

It's the 7G2 air-cooled condensing unit . . . compact . . . rugged . . . economical. Now coming off the production line for prompt delivery.

The 7G2 air-cooled is versatile—and built for hard service. Before the war it furnished dependable refrigeration for markets, restaurants, taverns, retail dairies, ice cream freezing and hardening rooms, small walk-in coolers . . . any type of installation needing 1½ to 2 tons capacity. It's back with all its special design features.

Entirely self-contained, the 7G2 is built for long life and low operating and maintenance cost. All close fitting parts are machined to extreme accuracy . . . and they're interchangeable for economical service.

The 7G2 condensing unit reflects Carrier leadership in research and engineering. There's no greater assurance of long, satisfactory service. . . . Carrier Corporation, Syracuse, N. Y.

• • • • • • • • • • • • • •

GET THIS *NEW* FREE BOOK. Carrier's new book, "Refrigerating Compressors and Condensing Units," is just off the press. It is crammed with application hints and complete data on Carrier refrigerating units. It's a book you'll want to keep handy for reference. Write for your copy today.

Carrier
AIR CONDITIONING
REFRIGERATION
INDUSTRIAL HEATING

Wyoming High Court Decision:

Out-of-State Supply Houses Are Exempt from Sales—Use Tax

CHEYENNE, Wyo.—Refrigeration equipment sold to Wyoming creameries or other establishments using similar equipment by an out-of-state supply house is not subject to the state sales and use taxes, according to a decision just handed down by the Wyoming supreme court. The decision reversed the finding of the Laramie county district court and upheld three creamery companies in their exemption claim.

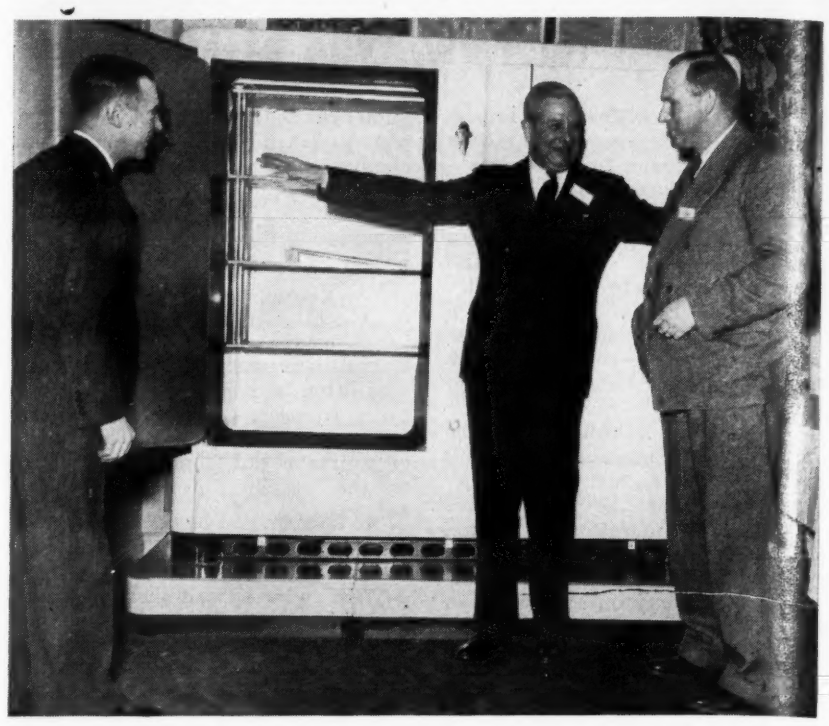
The Creamery Package Mfg. Co. was assessed $3,013.90 in 1941 by the state board of equalization, this amount being for taxes allegedly due, plus penalty and interest on sales made during the period between 1937 and 1941. The company brought action against the board for a declaratory judgment that it was not liable for such taxes because of the fact that it is an out-of-state firm, and the Wyoming statutes exempt such equipment from tax levies under the circumstances.

The Sheridan Creamery and the Sunrise Creamery of Wyoming joined with the machinery company as plaintiffs, and the three claimed that the items involved (largely refrigerating equipment), were exempt from the sales and use taxes because the goods were not generally stocked and kept for sale in Wyoming. The state board, however, held that the company was doing business in Wyoming inasmuch as it sold machinery in the state about twice a year and installed equipment.

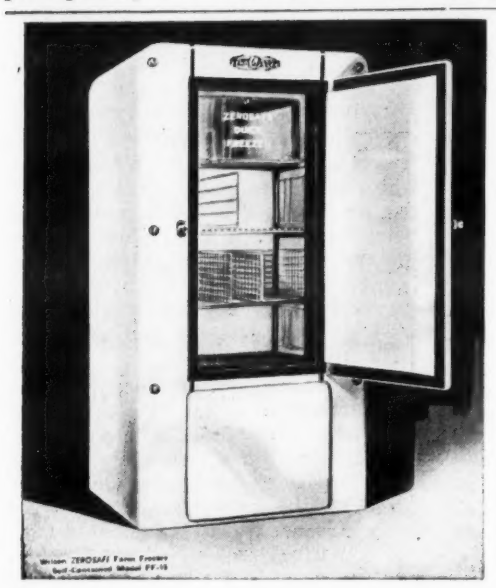
OPA Board Chief Resigns Post; Will Head Omaha Dealer Firm

OMAHA, Neb.—John C. Elliot, district price board executive at the head of the OPA's 102 price boards in Nebraska, has resigned to become president of the newly formed Elliot Appliance Co., Inc., 6206 Maple St.

Carrier's New Postwar Model of Food Freezer



"Wider than my reach and I've got a pretty good one," exclaims Carrier Corp.'s President, Cloud Wampler, as he and Fred W. Smith (left) director of packaged refrigeration sales, show the new Carrier model 14 D 7 food freezer, a 30-cu. ft. capacity model, to Harry Dundas of Utica Oil Heating Corp., Utica, N. Y., during Carrier's recent postwar convention.



Wilson ZEROSAFE Reach-In Farm Freezer Is Years Ahead...

SINCE 1939 Enthusiastic public acceptance and constant daily use have proved Wilson ZEROSAFE the greatest reach-in farm freezer in America . . . These years of trouble-free ZEROSAFE service are your guarantee that "Freezers by Wilson" will continue to revolutionize American menus by making frozen fresh foods a part of daily living. THE NEW ZEROSAFE IS NOW GREATER THAN EVER . . . There is a ZEROSAFE size for every need: 15 cu. ft. (illus.) and 25 cu. ft. Self-Contained Models; and Sectional Models from 22 cu. ft. up to 120 cu. ft.

For franchise information, address Desk 11:

WILSON REFRIGERATION, INC.
DIVISION OF WILSON CABINET CO.
SMYRNA - DELAWARE

Low-Cost Prefabricated Homes To Use Ingersoll Central Utility Unit

NEW YORK CITY—Scheduled to sell at prices from $4,997 to $5,891, the first prefabricated homes to incorporate the new Ingersoll central utility unit will be introduced by Shelter Industries, Inc., announces Donald Deskey, president.

The Ingersoll utility unit which includes an electric refrigerator, gas range, kitchen equipment, furnace, hot water heater, bathroom, and other plumbing fixtures in one compact unit, is manufactured by the Ingersoll Steel Division of Borg-Warner Corp.

Mr. Deskey termed these units one of the main factors contributing to the low cost at which the houses are being offered. Shelter Industries, he said, plans to design, manufacture, and distribute completely equipped homes.

The new corporation has already started production at the Winner Mfg. Co., Trenton, N. J. and hopes to hit a volume output of 200 houses per month by the end of the year, it was stated.

"Present plans to expand the number of factories identified with the program," declared Mr. Deskey, "will enable the company to produce at the rate of more than 26,000 houses annually during 1947."

As the firm's production schedule gains momentum, new houses will be delivered from strategically located combination manufacturing and distributing centers, Mr. Deskey said.

Dealer Purchases $11,000 Building for Appliances

OMAHA, Neb. — Allen L. Mahan, appliance dealer, has purchased the one-story brick building at 5001-3 Leavenworth St. from Allen W. Montgomery for $11,000. He plans to set up a modern sales and service store for refrigerators and other home appliances.

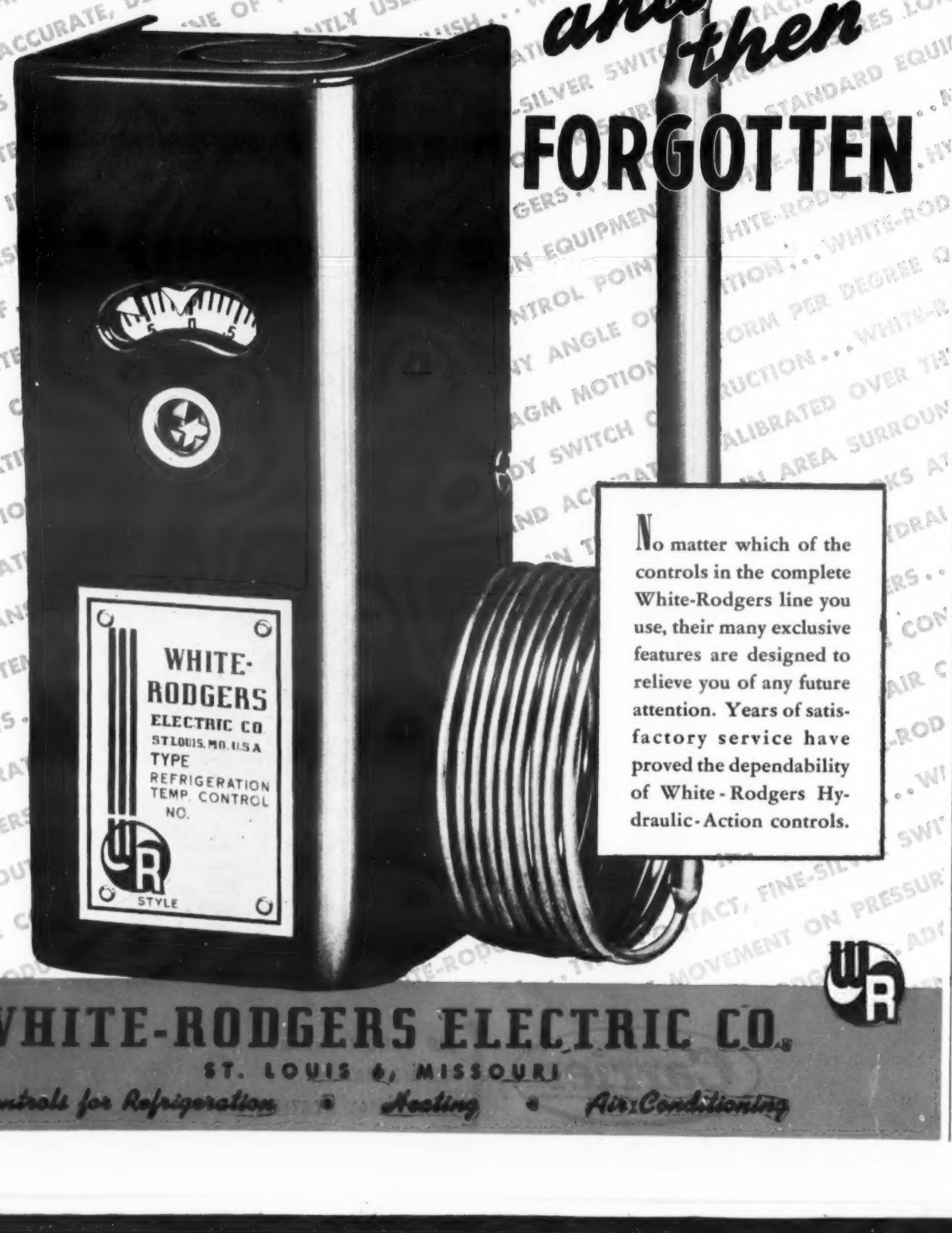
Pemco Issues New Reference Manual

BALTIMORE — Pemco Corp. has just announced the completion and the release of their new Pemco Reference Manual which has been in the research and development stages for the past six months.

Purpose of the manual is to correlate for ready reference the essential knowledge of porcelain enameling plant control in relationship to the importance of cost reduction and to bring about the correction of enameling shop problems and simplifications of purchasing. The manual contains nine main index sections which represent over 100 pages of enameling specifications in addition to 14 individual Porcelain Enamel Institute booklets and specially written booklets on various enameling tests and seven complete sets of plant and laboratory control and layout charts.

The first copies are being sent free of charge to a selected list of porcelain enamelers and additional copies may be purchased for the cost price of $5.

Built to be INSTALLED *and then* FORGOTTEN



No matter which of the controls in the complete White-Rodgers line you use, their many exclusive features are designed to relieve you of any future attention. Years of satisfactory service have proved the dependability of White-Rodgers Hydraulic-Action controls.

WHITE-RODGERS ELECTRIC CO.
ST. LOUIS 6, MISSOURI
Controls for Refrigeration • Heating • Air Conditioning

DURABLE DEPENDABLE ADVANCED ENGINEERING

BRASS FITTINGS by *Perlick*

"GUTS" . . .
Perlick brass fittings "have what it takes" to stand up longer and serve better. Engineered with an eye toward practicability, you'll find Perlick fittings just right for your many needs. Meet the entire Perlick fitting line—write for illustrated catalog today.

R. PERLICK BRASS CO.
3110 W. MEINECKE AVE.
MILWAUKEE 10, WIS.

8 Appliance Outlets Involved In Moves In San Diego

SAN DIEGO, Calif.—A series of dealer moves here was begun when the J. N. Ceazan Co. moved into its new building at 1945 E. Harbor Drive, recently. Although the new quarters are not yet completed and the organization is operating under difficulties, it is expected that completion will be accomplished some time in the next few weeks, according to company officials.

The former location of Ceazan's at 2nd and B Sts. is being remodeled to house the retail appliance store of Cantor Brothers.

The Lowell Wood Co., distributor for Packard Bell, recently established a warehouse and offices at 424 W. Beech St.

Hardy Refrigeration Co. recently moved to 1215 India St., Automatic Equipment Co. changed its location to 1302 18th St., and Precision Radio is now situated at 4008 University.

A local branch of Electrical Appliance Service Corp., distributor of washer parts, is planning an opening soon at 17th and K Sts.

OPA Sets Price Ceiling On Ravenna Washer

SEATTLE—Ceiling prices for the "Standard" model washing machine manufactured by Ravenna Metal Products Co. here were recently approved by OPA in Order 46, MPR 86.

Retail price of the washer, equipped with a pump, was set at $109.95. Without the pump, the ceiling is $99.95.

Other maximum prices were established as follows: by the manufacturer to distributors, $59.20 with pump, $53.81 without pump; by distributors to dealers, $69.20 with pump, $62.91 without pump.

Pacific Fabricating Now Hammond Mfg. Corp.

HUNTINGTON PARK, Calif—The firm owned and operated by D. C. Hammond and known as the Pacific Fabricating Co. has been incorporated as the Hammond Mfg. Corp. Mr. Hammond is the president and majority stockholder and will continue as active head of the corporation.

Plant facilities at 3383 East Gage Ave. here will remain intact, as will management and personnel, announced Mr. Hammond.

Gilmer BELTS

Gilmer V-Belts fit. Once they are installed no return trips for re-adjustment are necessary. Gilmer V-Belts fit because cords are normalized to minimize stretch.

And Gilmer V-Belts have all the other important qualities that count. They are ruggedly built for long life. They assure dependable performance. And there are sizes for all needs, for Gilmer V-Belts are made on the largest assortment of V-moulds in the world. Get in touch with your jobber today.

L. H. GILMER COMPANY
Tacony, Philadelphia 35, Pa.
Division of United States Rubber Company

More Stores Offering Coin-in-the-Slot Service With Automatic Washers Being Established

SOUTH BEND, Ind.—Eight more Launderette stores, each having from 20 to 40 coin-operated Bendix automatic washers, are being opened, it has been announced by Grant Layng, manager of the apartment house and builders' division, Bendix Home Appliances, Inc.

Charge is 25 cents a washing load. The new stores will add Bendix automatic home dryers as soon as they become available, probably some time this summer, Mr. Layng said.

Franchised by the Telecoin Corp., the first Launderette was opened in the Parkchester Development of the Bronx a little more than a year ago. By the end of the year 17 more had been set up by Telecoin, most of them in the East.

Present expectations point to 1,000 Launderette stores before the end of the year, according to Mr. Layng. They average 20,000 washings a week, he said, but with the number of washers per store now approaching 40 (the first one had 20), the average number of washings handled is bound to increase.

Present distribution of the stores shows 14 in metropolitan New York, and one each in Los Angeles, South Bend, Roxbury (Mass.), and Bethlehem (Pa.). The eight new stores will add three in New York City, three in Chicago, one in Philadelphia, and one in Boston, Mr. Layng disclosed.

Electromaster Appoints Bell

DETROIT—J. A. Bell has been appointed as director of utility sales at Electromaster, Inc., manufacturer of electric ranges and water heaters, announces Gerald Hulett, vice president.

A member of Electromaster's sales staff for 11 years before the war, ing Illinois, Missouri, Indiana, and Iowa.

Iowa Distributing Firm Opens Branch In Omaha

OMAHA, Neb. — A distributing branch will be opened at 10th and Davenport Sts. here July 1 by the G. W. Onthank Co. of Des Moines, Iowa, which operates in seven states as distributor of refrigerators and other electrical appliances, it was announced by G. W. Onthank, president, and Earl Clinker, sales manager, who were in Omaha recently completing the final lease arrangements.

The Omaha branch will be managed by John J. Goebel, has 45,000 sq. ft. of floor space, and will employ about 25 persons. The Omaha region will include approximately 1,000 dealers in Nebraska, South Dakota, western Iowa, northern Kansas, and southwest Minnesota.

Mr. Goebel said that the Onthank company recently leased the former Herrick building in Des Moines, and will move its factory from Mason City, Iowa to Des Moines in the near future.

Crosley Appoints Winston To New York Sales Post

NEW YORK CITY—Dan Winston, formerly Captain of Intelligence, Army Air Forces, in the European theater for four years, has been named New York sales representative for the Crosley Distributing Corp., announces Bert Cole, general sales manager.

Formerly Mr. Winston was sales repesentative for Lowe Corp.

Copper-Clad Gas Range Ceiling Price Set by OPA

ST. LOUIS, Mo.—Retail ceiling prices have been set up by OPA for Model D-18-B gas range produced by Copper-Clad Malleable Range Co. here. The prices are: Zone 1, $164.25; Zone 2, $167.50; Zone 3, $170.50; Zone 4, $173.50.

Installation by the dealer is included in these prices, but if the dealer does not provide installation, he must deduct $6 from the ceilings.

These 18,047,028 resident salesmen work for me?
Say "Goodbye" to needle-noise—chatter, hiss or scratch—with the Floating Jewel Tone System
CROSLEY

ON ONE RECORD!—an actual demonstration of the Crosley Floating Jewel* Tone System and the Master Tone Control. Hearing is believing—and you can hear this record at your nearby Crosley dealer's store.

NO MORE NEEDLES TO BUY—or change—or hear! Floating Jewel* Tone System uses a permanent sapphire stylus on delicately balanced tone arm. It plays on the sides of the record groove—cannot dig in (like sharp metal needles) to cause scratching, hissing or chattering.

THIS Crosley Combination Radio-Phonograph, table model, is one of nineteen new Crosley instruments. It is an electronic achievement, a mechanical masterpiece, in a high-styled cabinet. Equipped with Floating Jewel* Tone System. *Patented

CROSLEY is sending these millions of printed salesmen to live and work in the homes of prospects, demonstrating Crosley Radio-Phonograph Combinations. (Note pictures and captions to the right).

These prospects are urged to come to my store and YOUR STORE to hear actual demonstrations of the Crosley Floating Jewel* Tone System and Master Tone Control to prove that "Hearing is Believing."

The 1946 Crosley line of 19 Radios and Record-Playing Combinations, from newly designed modern table sets to de luxe combinations that **have everything,** tops all previous standards in beauty of design, quality of materials and mechanical excellence.

Crosley has it! Wise and alert dealers know it!

CROSLEY
THE CROSLEY CORPORATION, CINCINNATI 23, OHIO.

REFRIGERATORS • HOME FREEZERS • KITCHEN SINKS AND CABINETS • RANGES • LAUNDRY EQUIPMENT
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They'll Do It Every Time . . . . By Jimmy Hatlo

WHO REPAIRED THE RADIO LAST TIME? ER-I THINK IT WAS A MR. WINTERBOTTOM FROM THE ABYSMAL ELECTRIC SHOP.
ZOMBIE'S RADIO REPAIR SERVICE
EXACKLY WHAT I THOUGHT! MINUTE I SEE THIS WIRING I SEZ TO ME, I SEZ, "THIS IS DISTINCKLY THE WORK OF A AMACHOOR". THEY'S ONLY A FEW GUYS IN THE WORLD UNNERSTAN' RADDIO, LADY YA SHOULDA CALLED ME THE FIRST TIME. WORKIN' ON A RADDIO IS LIKE A GREAT STURGEON DOIN' A DELICATE OPERASHUN ON SOMEBODY'S STUMMICK—
HE'S WORSE THAN A SINGING COMMERCIAL. YOU'D THINK HE FLEW THE KITE FOR BEN FRANKLIN WHEN HE DISCOVERED ELECTRICITY
TWO BITS SAYS WE'LL HAVE TO CALL IN THE OTHER GUY TO UNFIX WHAT HE THINKS HE'S FIXING.
THAT'S THE SAME LINE THE PLUMBER PULLED LAST WEEK WHEN HE CAME TO FIX THE FURNACE.
6-11
JIMMY HAT!O
LISTENING TO THE REPAIR MAN, AS HE THROWS THE HOOKS INTO THE COMPETISH.
Thanx To M. H. SILVER LAKE, MINN.
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AIR CONDITIONING AND REFRIGERATION News

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Associating for Profit At the Dealer Level

AMONG the interesting new trends in the refrigeration trade is the tendency of dealers and contractors to band together in organizations that are representative of allied interests.

If these new groups in the field can keep such organizations alive—and from the deadly earnestness with which they have gone about it, there's every chance that they will—it should improve the chances for success of the individual operator.

Before the war, most activity at the dealer-contractor level was conducted in the "dog-eat-dog" manner. As one manufacturer of commercial refrigeration commented on the situation:

"In the growth of the field organizations there had been at no time a program for the establishment of ethics between distributors, nor has there been a general understanding of the application of business practices necessary to success.

"Result of this situation has been the establishment of 'dog-eat-dog' practices to include excessive and fictitious trade-in allowances, price cutting, and unnecessary knocking of competitors, which has given the commercial refrigerator industry a bad reputation at the distributor level."

Unscrambling the Dog-fights

What, then, have been the signs of a trend to reverse the condition? The signs have been, specifically, the formation of local Commercial Refrigerator Distributors Associations in nearly all of the major cities; in the organization of a National Association of Refrigeration Contractors; in the gain in membership and forceful program of the Appliance Division of National Electrical Wholesalers Association; and in the development of local appliance retailer organizations.

Local commercial refrigerator groups have a rather simple set of objectives—to set up a code of ethics, to get acquainted, and to formulate sound operating standards of business practice. Perhaps the most beneficial phase of these group activities is their regular monthly meetings—at which there can be a general clearing of the air.

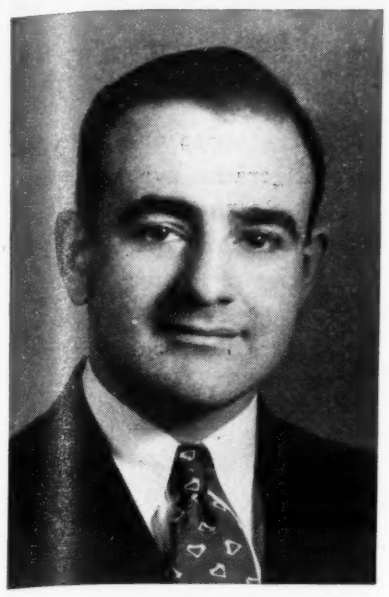
National Affiliation of Local Groups

In recent years a number of good local refrigeration contractor associations have functioned, and the benefits realized by those affiliated with local groups made everybody who knew about them anxious to extend the movement nationally.

The organizational efforts of a small nucleus of contractors who were fired with organizational zeal sparked a swift flood of interest among contractors nation-wide, with the result that the National Association of Refrigeration Contractors was set up some weeks ago in Cleveland. Contractors from many parts of the country joined up immediately, and the organization has enjoyed a rapid growth.

These organizations—together with such existing groups as the Refrigeration Equipment Wholesalers Association and Refrigeration Service Engineers Society—should help the industry provide better service to the public while providing fairer and more profitable operations for individual concerns in the field.

Regional Manager



S. C. MONCHER

Recently appointed New York-New Jersey regional manager for Electric Power Equipment Corp.

Omaha Bakeries Demand Refrigerated Storage

OMAHA, Neb. — Bakeries in the Omaha area are showing unusual interest in refrigerated dough storage, according to Henry Hansen, sales manager of the Omaha Bakers Supply Co., and 12 retarded dough refrigerated boxes have recently been shipped to baking plants in the territory.

The bakeries include Haasman's Bakery at Bloomfield, Neb.; Harlan Bakery, Gothenberg, Neb.; South Side Bakery, York, Neb.; Flandreau Bakery, Flandreau, S. D.; Max Husband's Bakery, Phillips, S. D.; Tyndall Bakery, Tyndall, S. D.; Dreier Bakery, Sioux City, Iowa.; Gabler Baking Co., Council Bluffs, Iowa; Home Bakery, Knoxville, Iowa; Tillinghast Bakery, Lake City, Iowa; and Bungalow Bakery, Great Falls, Mont. The latter plant installed two of the largest size retarded dough boxes on the market.

Air conditioning equipment for doughs also is much in demand, Mr. Hansen said. Bakeries which have installed this type of equipment in recent weeks include the Sunrise Bakery, Beatrice, Neb.; Fallick Baking Co., McCook, Neb.; Easter & Carroll, North Platte, Neb.; Childs Food Shoppe, Norfolk, Neb.; Golden Krust Bakery, Poplar, Mont.; Johnson Bakery, Yankton, S. D.; Edgemont Bakery, Edgemont, S. D.; and Dreier Bakery, Sioux City, Iowa.

G-E Buys Plant to Augment Fractional Hp. Motor Output

WASHINGTON, D. C. — To augment production of fractional horsepower motors and magnet wire for motors and transformers General Electric Co. has purchased the government-owned turbo supercharger plant at Ft. Wayne, Ind. at the cost of $5,000,000, the War Assets Corp. has announced. Upon approval of the purchase by the attorney general, G-E plans to employ some 3,400 workers at the plant.

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R.E.W.A. Names Committee For All-Industry Show

CINCINNATI — Members of the All-Industry Show committee, new members of four standing committees, and four new memberships have been announced by the Refrigeration Equipment Wholesalers Association.

James H. Downs, of Cleveland, was named by President Ted I. Glou to head the October All-Industry Show committee of the Parts and Supply wholesalers' group. Others on the committee are J. H. Penske, Jr., of Cleveland; N. K. Mason, of Columbus; and J. L. Homan, of Dayton.

New firms elected to association membership by the board of directors and their representatives are:

County Supply, Inc., Norwalk, Conn., E. R. Schultz; R & R Parts & Supply Co., Lubbock, Tex. (branches in Amarillo and Abilene, Tex.), R. C. Hewett; Texas Refrigerati Supply Co., Ft. Worth, Tex., Paul L. Cato; and United Commercial Sales Co., Los Angeles, A. H. Reinach.

Other committee appointments announced by President Glou are as follows:

Manufacturers Relations committee: George J. Roche, of Baltimore, chairman; Ben V. Blazer, of Passaic, N. J.; Harold R. McCombs, of Denver; and Alex H. Holcombe, Jr., of Philadelphia.

Finance committee: Mr. Holcombe (new R.E.W.A. treasurer), chairman; H. Whiting Holt, of Pittsburgh; and C. W. Dennis, of Sioux City, Iowa.

Government Contact committee: Edward C. Marsden, of Hartford, Conn., chairman; Irving J. Fajans, of New York City; and M. J. Trautman, of Washington, D. C.

Trade Association committee: L. V. Branson, of San Francisco, chairman; J. P. Glass, of Chicago, Mr. Downs; and Mr. Fajans.

New Service Firm Opened

OKMULGEE, Okla. — J. L. and Darrel Robinson have opened the new Robinson Refrigeration Service at 410½ East 7th St. in Okmulgee.

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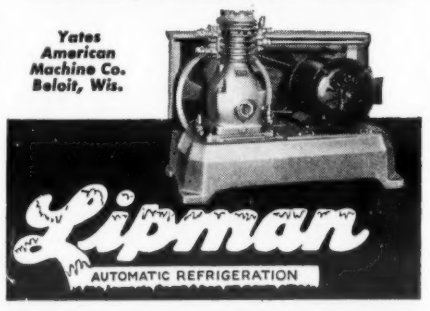
BY A QUARTER CENTURY OF *REFRIGERATION KNOW-HOW*

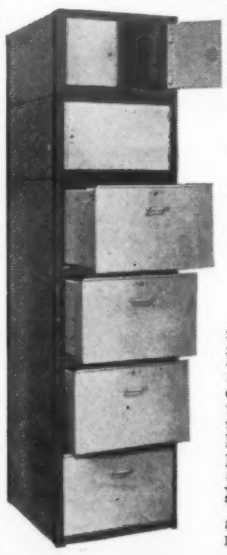
Plan your automatic refrigeration installations for a triple advantage: Proved performance, low first cost, low maintenance cost. LIPMAN machines for dependable service in any field of commercial refrigeration are the result of more than a quarter century of manufacturing know-how. Let LIPMAN serve your needs profitably!

GENERAL REFRIGERATION DIVISION



A-S-E FROZ-N-FOOD LOCKERS

INCREASE PROFITS with this LOCKER LINE



For more profits, sell A-S-E Froz-n-Food Lockers. Note these features:

- **Glide-easy drawer action**
- **Sturdy steel construction**
- **Rich two-tone finish**
- **Drawer units are shipped factory assembled**

A-S-E Froz-n-Food Lockers have earned the nation-wide preference of locker users . . . they're the attractive lockers that mean profits for you, satisfaction for your customers. Write today for additional information.

ALL-STEEL-EQUIP COMPANY, INC.
450 GRIFFITH AVE. AURORA, ILL.

Coffee Producer Turns to Freezing To Improve Flavor of Coffee Powder

LOS ANGELES—Froz-N-Coffee, a brand of quick-frozen coffee paste has just been developed here by the Cusack Coffee Co. Packed in paper cups and distributed through frozen food channels, Froz-N-Coffee is said to capture roaster-fresh flavor right at the ovens and maintain it indefinitely under low storage temperatures.

Charles E. Cusack, head of the firm, pointed out that this quick-freezing process has given his product a definite advantage over those coffee-brands processed and distributed by ordinary methods.

FLAVOR RETAINED

"The advantage in quick-freezing coffee is that the highly volatile flavor element which exists immediately after roasting is usually lost through vacuum packaging delays," he declared. "Freezing the coffee right after it comes from the roaster keeps all the flavor, ready for release upon thawing."

The process whereby the raw coffee bean is transformed into frozen coffee powder ready for delivery to the consumer was briefly explained by Mr. Cusack. Upon arrival from South America, the coffee is roasted for approximately one hour—a period longer than that used in ordinary coffee processing. This extra roasting permits the coffee to be ground to a fine powder, whereupon it is mixed with enough water to form a paste, and then packed into paper cups by combination hand and automatic machinery.

Each container holds enough of the paste for from three to five cups of coffee with the addition of hot water. Six of these cups comprise a carton.

Next, the cartons are moved into a freezing tunnel where they are subjected to cold blasts of air refrigerated to temperatures well below zero by a 3 hp. General Electric compressor. Then the cartons containing the basic coffee paste are moved to the rear of the tunnel to bring them in contact with cold plates and complete the freezing process, which, in all, takes about 40 minutes, Mr. Cusack stated.

Through an automatic door at the end of the tunnel, the frozen coffee cartons are passed into a large storage room where they are kept at 0° F. until ready for shipment to hotel and retail outlets by refrigerated trucks.

DEVELOPED OWN EQUIPMENT

The firm, which developed its own roasters, processing, and refrigerating equipment for the production of the quick-frozen coffee paste, likewise roasts and distributes standard coffees. Mr. Cusack predicted, however, the eventual conversion of all the firm's processing facilities to the production of Froz-N-Coffee.

"Everything points to a good acceptance of quick-frozen coffee," he affirmed, "simply because its flavor is outstandingly better."

REFRIGERATION CORPORATION FRIGID FREEZE FOOD LOCKER of AMERICA

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These oil separators are made for jobs from ⅓ H.P. to 120 tons and are used everywhere, ashore or afloat, where efficient refrigeration is desired.

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William H. Cody, 2nd Unit, 10th Floor, Santa Fe Bldg., Dallas, Texas
J. C. Battles, 504 Bondi Bldg., Galesburg, Ill.
Export: Borg-Warner International Corp., 310 S. Michigan Ave., Chicago, Ill.

Emerson to Boost Motor Output In New Building

ST. LOUIS—In line with its post-war expansion program, all manufacturing and office facilities of the Emerson Electric Mfg. Co. will be moved from their downtown location to the company's new five million dollar plant at 8100 Florissant Ave., with operations scheduled for completion in September, it is announced.

Covering approximately 40 acres, the new plant was erected under Emerson Electric's supervision for the development and manufacture of airplane gun turrets during the war. The company had previously acquired the 162-acre tract on which it is built, and completed its first plant there in 1940, for the manufacture of hermetic motors for the refrigeration and air conditioning industry.

With all operations centered at this location, an expanded program of production will be started for electric motors, electric fans, arc welders, and several new products. As a result of the company's extensive participation in war production, a substantial armament engineering program is being continued for the army and navy.

The move will provide an increase in floor space of about 50%, production increases will range up to 200% on some products, and increase in employment is expected to average well over 25%.

An air conditioned office building and modern lighting, latest medical and sanitary facilities, cafeteria, and up-to-date recreation facilities are featured in the new plant, together with modern production facilities.

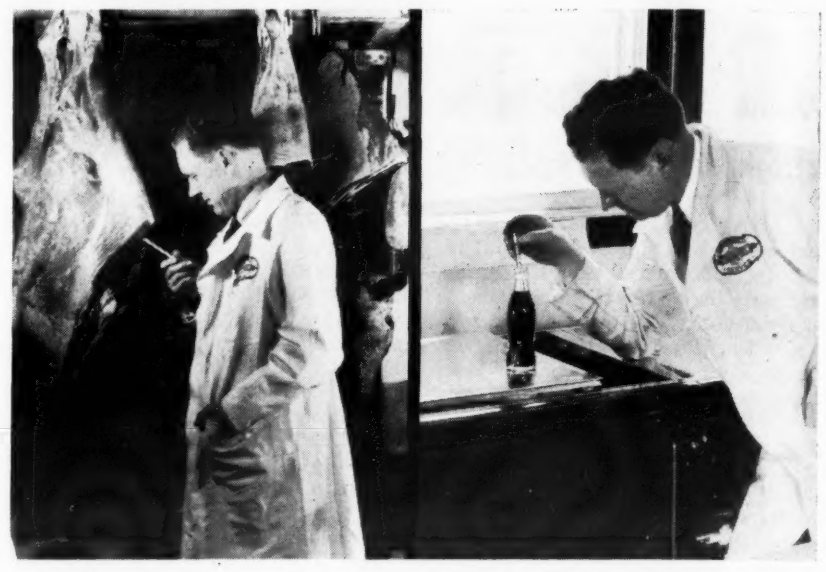
Servicing Commercial Refrigeration Systems

Editor's Note: This is the second of a series of illustrated articles on the servicing of commercial refrigeration systems which is appearing in AIR CONDITIONING & REFRIGERATION NEWS. When the causes of commercial service complaints are analyzed, it is found that 95% of all service calls are the result of four common "ailments" which can be diagnosed in seven simple steps. By following the procedures outlined in articles in this series, commercial repairmen can speedily handle nearly all complaints in the field.

The series was prepared through the cooperation of service department of Frigidaire Division, General Motors Corp., and is from one of their excellent slide training films.

Instalment No. 2

6—(Step 1) Check Fixture Temperature



Never take the temperature of the air or cooling medium inside the fixture. Instead, take the temperature of the products stored in the fixture.

Quite often heavy service will temporarily raise the temperature of the air in the fixture without affecting the products—and after normal service conditions are resumed the fixture will return to proper temperature.

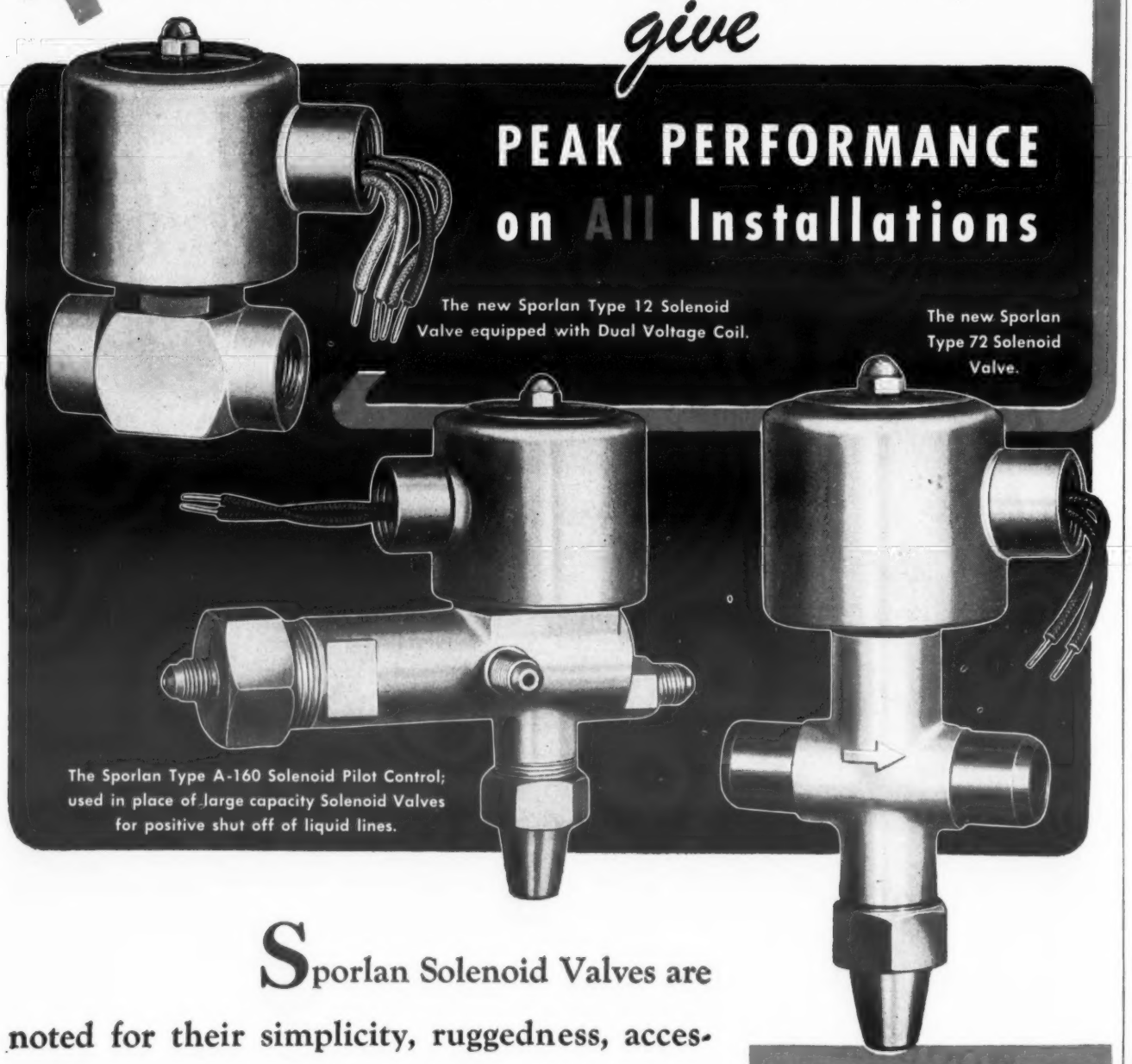
7—(Step 2) Check Products Stored to Determine Classification

Proper temperatures for various products are available in the Commercial Engineering Manual. However, even though the fixture temperature is O.K., if there is too great a differential

(Continued on next page)

SPORLAN SOLENOID VALVES *give*

PEAK PERFORMANCE on All Installations


The new Sporlan Type 12 Solenoid Valve equipped with Dual Voltage Coil.
The new Sporlan Type 72 Solenoid Valve.
The Sporlan Type A-160 Solenoid Pilot Control; used in place of large capacity Solenoid Valves for positive shut off of liquid lines.

Sporlan Solenoid Valves are noted for their simplicity, ruggedness, accessibility of parts, and, like all Sporlan products, can be installed with confidence.

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THERMOSTATIC EXPANSION VALVES
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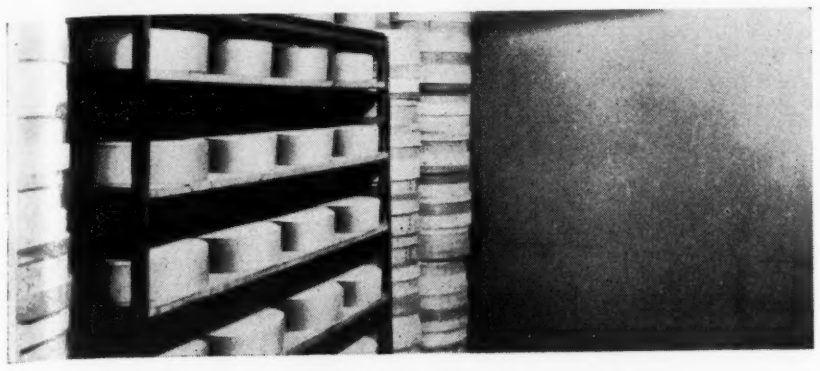
Servicing Commercial Systems (Cont.)

(Continued from preceding page)

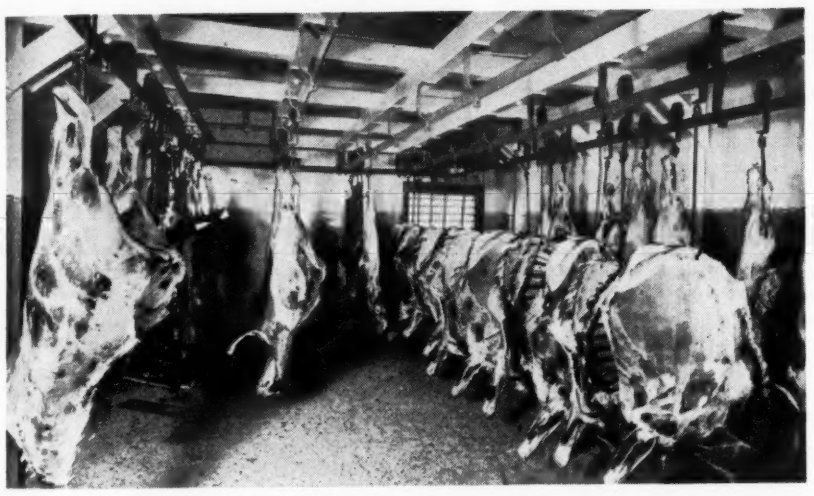
between the temperature of the fixtures and the evaporator, there will be a tendency for the products to dry out excessively.

As shown, the proper temperature differential depends on the type of products stored. Products which dry out easily should have a small differential. Those that do not dry easily, or require some drying, can have a greater differential.



Temperature Differential: 14° to 18° F.

Temperature Differential: 18° to 22° F.



Temperature Differential: 22° to 27° F.

Temperature Differential: 27° F. and Up

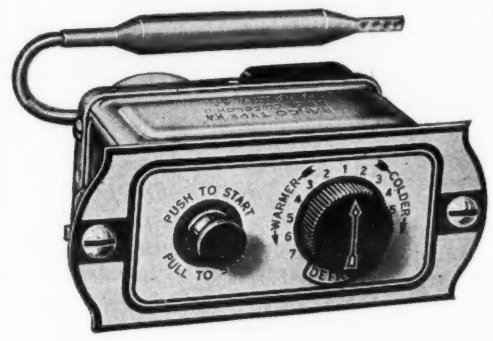
Buffalo Schools Plan Refrigeration Training

BUFFALO—The Buffalo Board of Education is "vitally interested in securing the use of all the buildings at Buffalo Airport comprising Camp Curtiss-Air for use in vocational education, particularly for training veterans in refrigeration and other courses," the board has informed the Council's special airport committee.

"The board already has received approximately 500 applications from veterans for vocational training," said Chairman Charles J. McDonough. "Not more than 25% of these applicants can be accommodated in our vocational schools as now constructed."

SELECT A RANCO CONTROL

WITH THE HELP OF YOUR RANCO JOBBER

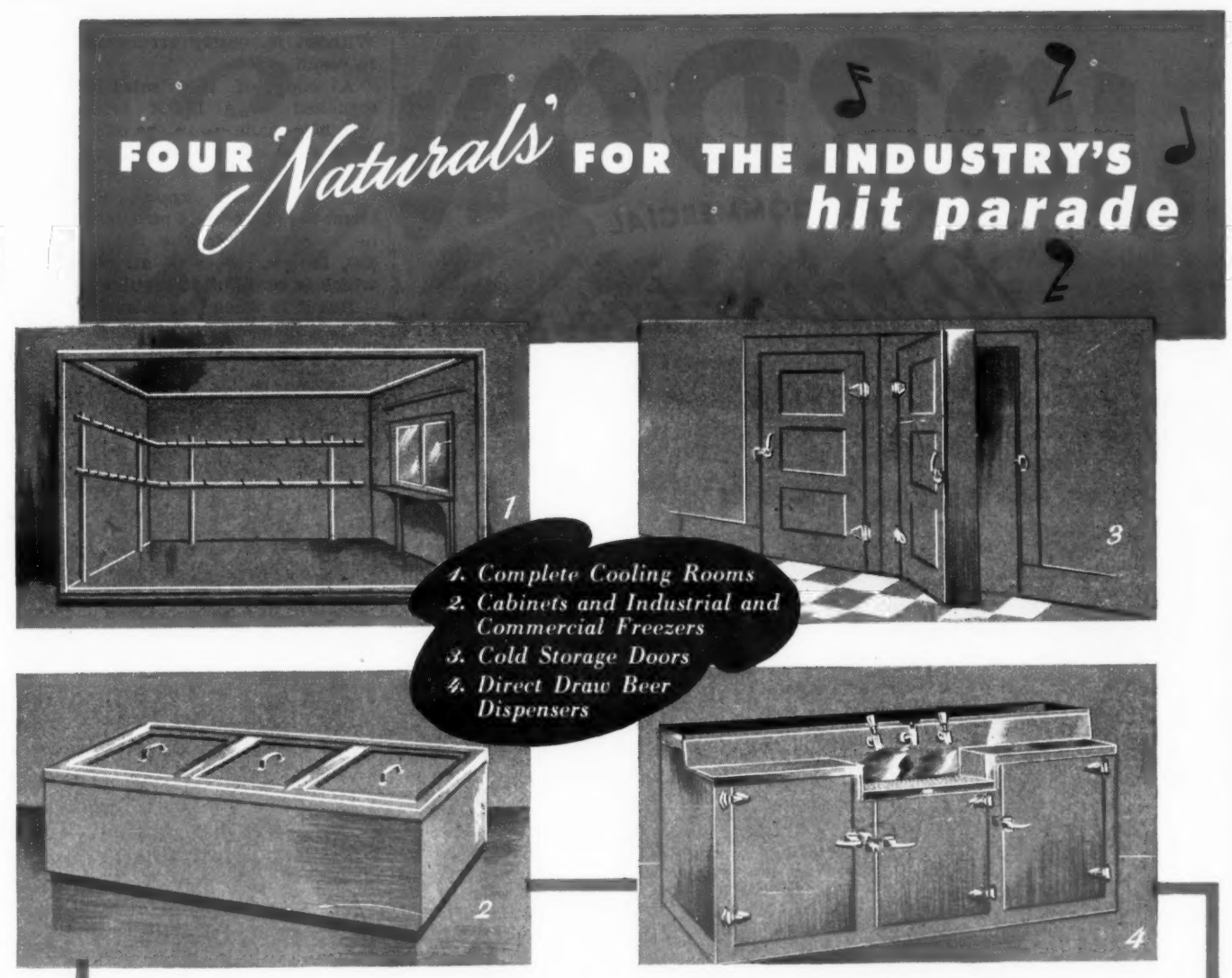


For Commercial — General And Exact Replacement

Ask your Ranco jobber to help you select the refrigeration control to fit your particular requirements. You'll find he knows Ranco Controls "inside out," and that he will be glad to work with you.

When you select your Ranco Refrigeration Control—whether an exact or general replacement for domestic or commercial use—you may be proud and confident, assured a beautiful instrument, alert, quickly responsive, dependable and accurate.

Ranco Inc. Columbus 1, Ohio



Refrigeration contractors, service organizations and fixture and equipment dealers can look forward to a steady rise in profits and prestige as soon as the new Albert H. Bromann Jr. plant begins turning out these products in volume. For the cold storage doors and direct draw beer dispensers illustrated here incorporate design features and superior workmanship that will sell them on sight, and the cooling rooms and freezer cabinets that will be tailor-made for your customers in our modern factory will add substantially to your good reputation.

Of particular interest to you because it *protects* your profits is the Albert H. Bromann Jr. policy of selling only through recognized, established refrigeration and dealer outlets. No product of this organization will be sold direct to users at any time under any circumstances.

Only the shortage of essential raw materials is holding up volume production. Designs have been perfected, specifications drawn up, modern machinery installed in the new plant. As soon as needed lumber, hardware, insulation and other materials are available in quantity, the assembly lines will swing into action. In the meantime, we suggest you write us, if you have not already done so, in order that your name may be placed on file to receive new literature when it is ready for distribution.

SERVING THE REFRIGERATION INDUSTRY

ALBERT H. BROMANN JR.

SCHILLER PARK, ILLINOIS (CHICAGO SUBURB)

How a Refrigeration Supply Wholesaler Keeps Track of His Cash Customers

Cardex System Enables Oberc Organization To Direct Sales Effort Where It Is Most Needed

DETROIT—Keeping exact records of purchases made by cash, as well as credit customers, is one of the most important factors in the operating setup of J. M. Oberc, Inc., Detroit refrigeration parts and supply wholesaler.

Joe Oberc, president of the organization, asserts that an analysis of customers' purchases made from these records is an all-important guide to efficient parts wholesaling management.

Some years ago Mr. Oberc took a good look at his cash sales tickets, as compared with total credit business, and was struck with their importance.

"Our cash sales are not limited to poor credit risks, by a long shot," Mr. Oberc declares. "As a matter of fact, a lot of our better customers prefer to pay cash, and keep the slate clean all the time. And we like that, too. But for a long time we had no idea of the importance of many of our cash customers."

As a result of this situation he installed a cardex system that is now constantly used behind his city sales counter. The salesman on duty writes up every order, whether it is cash or charge, and then takes a quick look at the customer's card. This shows the correct name, correct initials, current address, and how many calls have been made at the Oberc store in the past month.

Originallly, the firm attempted to keep track of every item the customer purchased, but this has been abandoned in favor of keeping track of the number of calls.

WHAT THE CARD REVEALS

Thus the card gives a quick picture of the activity of the account, as it records the number of visits made each month. Information as to the total amount purchased by the customer, from month to month, is carried on a ledger in the company office, but this is another matter. The vital thing, Mr. Oberc says, is to have a pattern of the customer's buying habits.

The system works in two ways. If the customer has not been in the Oberc store for a considerable period of time—this is a signal for the salesman on duty to invite the customer to spend a few minutes with Mr. Oberc, in his office.

The head of the company tells the customer of his desire to give good service, satisfaction, and to have a complete line of refrigeration equipment. Then he endeavors to find out why the man has not been in the store oftener. Many small misunderstandings are cleared up in this way—putting the relationship on a sound footing.

On the other hand, a clerk may report that Joe Doakes is coming in three times a week—for small parts. The "too frequent" customer is also invited to discuss his business problems with Mr. Oberc.

He may find out that the frequent trips, which are very costly to the customer, both in time and mileage, are due to a lack of working capital. In this case, arrangements for credit may be indicated, depending upon the reputation of the account. In any case, it is pointed out to the customer that frequent trips are useless, and expensive, from any point of view, and the customer is advised to buy in greater quantities.

THE 'WORKS' FOR A NEW ACCOUNT

When a new customer appears at the busy Oberc sales counter, he does not exactly get a "barbershopping"—except on the company books—and here he gets the works. The carefully trained salesman is instructed to get complete information on the first sales ticket, as to name, name of organization, address, phone, and credit information.

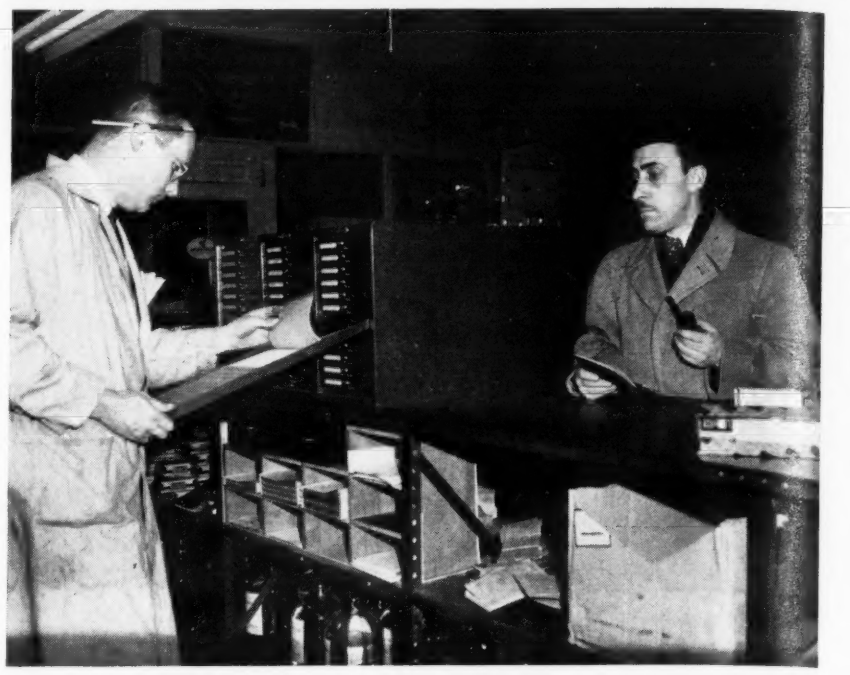
Mr. Oberc has found it pays to be a stickler for correct initials, address numbers, and telephone numbers when this information is obtained. Without it, costly errors are bound to result.

A copy of this sales ticket is attached to a blank cardex card which is made up in the office, at the same time a ledger sheet is made up for the account. From then on Mr. Oberc virtually knows everything about his customer's purchases. Later he is entered on the firm's mailing list, to get copies of all direct mail which is sent out at regular intervals.

But it is when a customer does not

(Concluded on next page, Col. 1)

Cash Customers Get 'On the Record' Too



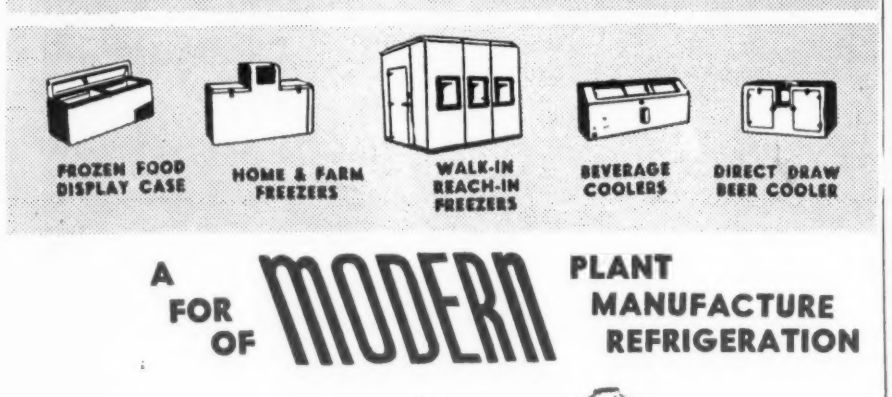
Louis A. Wallace, sales engineer for J. M. Oberc, Inc., Detroit refrigeration and air conditioning parts and supply wholesaler, checks handy company record on Customer Clarence E. Blay. If the customer's buying frequency slopes off, the sales department follows up on the account.

JORDON

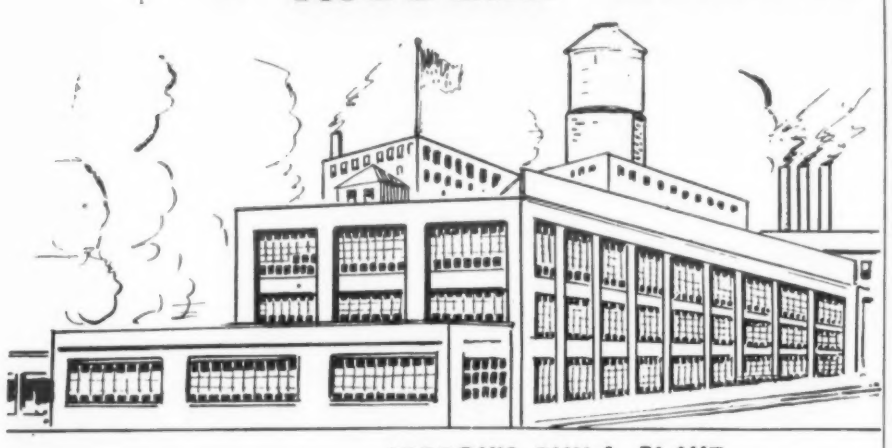
AMERICA'S BEST COMMERCIAL LINE!

Refrigerators

BEST IN OPERATION · BEST IN VALUE · BEST FOR YOU



A FOR OF MODERN PLANT MANUFACTURE REFRIGERATION



JORDON'S PHILA. PLANT

Revolutionary improvements are made possible at Jordon's streamlined plant. Advanced engineering and craftsmanship in every branch of Jordon's modern plant operation, will bring to the trade the finest complete line of commercial refrigeration equipment.

INQUIRE NOW FOR COMPLETE DETAILS ON AMERICA'S FINEST COMPLETE LINE OF COMMERCIAL REFRIGERATION EQUIPMENT

JORDON REFRIGERATOR COMPANY
SALES DIVISION
235 No. BROAD ST., PHILA. 7, PA.
Phone RITtenhouse 6359
FACTORY—PHILADELPHIA, PA.

It's a REVELATION —that's all!

★ Exclusive Dealer Franchise
★ Now in quantity production
★ All sizes: Industrial and Commercial
★ The last word in...

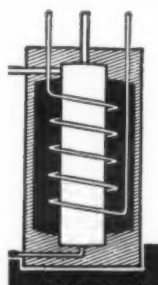
ELECTRIC WATER COOLERS

Revelation Company
Division of
Interstate Engineering Corporation
2600 Imperial Highway
El Segundo, California

FREEZERS DEFROSTED AUTOMATICALLY by THERMOBANK

0° LOCKER ROOM The contracting Firm was the Refrigeration Corporation of America, 241 W. 64th Street, New York, N. Y.

THE Kramer THERMOBANK System provides automatic defrosting in freezers below 32° without requiring brine sprays, water sprays or electric heaters. It never needs to be defrosted because it defrosts itself. It occupies no more space within the freezer than any other conventional forced air cooling unit.



How it works:

A portion of the heat extracted during the refrigeration cycle is banked in a reservoir from which it is released to the refrigerant during the defrost cycle.

Send for Bulletin TV345—N

KRAMER TRENTON CO.
Trenton, New Jersey
COOLING COILS · EVAPORATORS AND HEAT EXCHANGERS FOR REFRIGERATION

Buying Record Right on the Sales Counter

Kay Hooper and Norma Oberc (daughter of Owner J. M. Oberc), both employes of the Detroit parts and supply wholesaling firm, study the record forms which maintain up-to-date data on both cash and credit customers.

Promoting Sales To the Cash Customer In a Parts Wholesaling Business

(Concluded from preceding page)

show up for some time that the Oberc company sales promotion wheels really start to turn. First the customer gets a letter, inquiring about why he has not been in—and then another letter in the same vein. Then if he does not show up he gets still another letter that could only be described as a dinger. It reads in part:

"New friends can be made—but we get greater pleasure and satisfaction in seeing to it that we retain the good will of old established friendships.

"In other words, we have missed you, and wonder why you have not used the facilities of our store and services for some time. There can be many good reasons why you haven't been in. Have we lacked the right merchandise, at the right time? Has a phase of our service failed? Or have we in some way displeased you?

"We are intensely interested in being re-instated in your good graces, if the answer to any of the above questions is 'yes.'" The letter continues in this same vein, and concludes, "Our desire is to co-operate 100% with *you*. Won't you please tell us why your valued calls on us have been temporarily halted?"

According to Mr. Oberc, these kind of follow-up letters really get results, in bringing a high percentage of stray customers back into the fold.

Joe Oberc has found that business-like promotion is a much better proposition than sentimental promotion. There was a time, many years ago, Joe relates, when the firm sent a large turkey to every customer who spent a given amount during the previous year. This was fine for the men who got the turkeys, but many who bought, "almost as much," got pretty sore, because they did not get a fat bird.

This set Joe to thinking, and he finally decided, some 12 years ago, to send out only a calendar, and a very businesslike calendar at that. This is mailed early in November of each year, as Joe says, "the first calendar they get they hang up and keep."

So there are no turkeys, no special deals, no prizes. Not even any lush feminine pulchritude on a calendar. It's all strictly business at J. M. Oberc, Inc. and Joe has found that not only do his customers like it—but it pays.

M.P. & C.F. Koopman Buy Boston Parts Supply Firm

BOSTON — Following the resignations of Hillis D. Iams and Richard R. Seddon, as president and treasurer, respectively, of the Supply Distributor Corp., Millard P. and Charles F. Koopman, Jr. have purchased their stock. Messrs. Koopman have announced intent to install new personnel and continue along lines of expansion conceived by the original founders of the firm, which is a wholesaler of refrigeration parts and supplies.

United to Get New Home

HOUSTON, Tex.—A new home for the United Appliance Co. is now under construction at 704-06 Crawford St., Houston. The building will have modern display rooms, offices, and warehouse space totaling approximately 11,000 sq. ft.

Oberholzer Forms Own Sales Agency

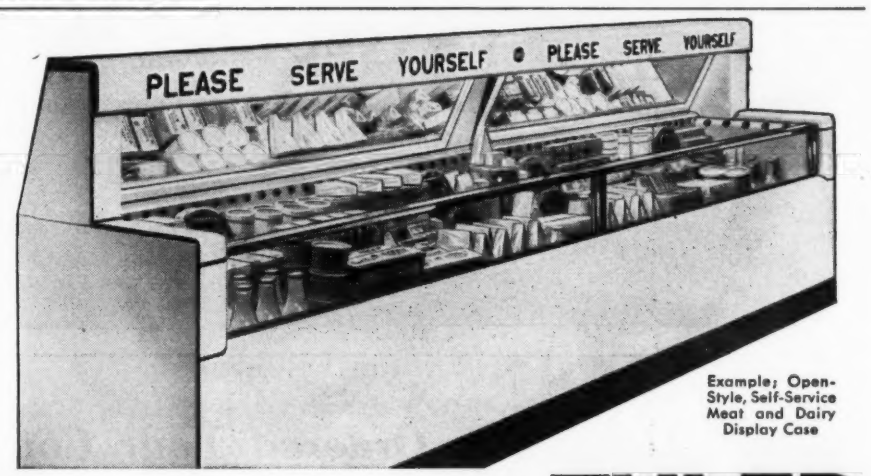
PHILADELPHIA — M. R. Oberholzer, general sales manager of L. H. Gilmer Co. here, has formed a partnership with E. C. Lindsay, Gilmer district manager, as stocking distributors of industrial equipment, it has been announced.

Both men have been connected with sales and engineering at the Gilmer company for over 15 years, and are specializing in power transmission equipment in the new company. The principal line carried is Gilmer V-belts and flat belting.

The firm will be known as Lindsay, Oberholzer & Co., with office and warehouse at 4432 Ridge Ave., Philadelphia.

452 FOURTH AVE., NEW YORK, N. Y.

Specialists on drinking water equipment for 56 years



Example; Open-Style, Self-Service Meat and Dairy Display Case

UP-TO-THE-MINUTE—that's the word for Tyler. For Tyler is leading the trend to self-service refrigerators for food stores. TYLER FIXTURE CORP., NILES, MICHIGAN.

TYLER

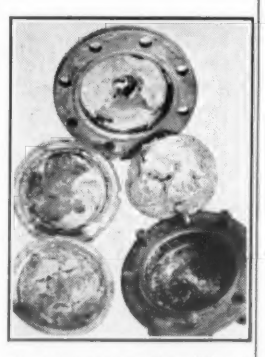
The Ansul Research Staff REPORTS ON..... WAX causes frozen valves too!

HERE'S FURTHER Proof RESULTS OF MACHINE TESTS

The equipment used consisted of 1/4 hp. motor, reciprocating compressor and dry coil with the thermostatic expansion valve located in contact with the coil.

A filter of steel wool and fine copper screen was placed in the liquid line just ahead of the expansion valve. The liquid line leading to the filter was coiled about the expansion coil to insure feeding cold liquid to the filter. The expansion valve, liquid line, filter and expansion coil were placed in a metal container and insulated with rock wool. A pentane thermometer, attached to side of filter, recorded temperatures which were, of course, much lower than corresponding temperature taken in other parts of the equipment.

After the equipment had operated for four days with the filter at approximately −50 degrees F., the filter was quickly removed, dismantled and photographed while still cold. For example, Photograph A shows a considerable separation of wax. Photograph B shows a portion of this wax after removal from the filter.



A—Wax separated on filter at −50° Fahrenheit.

B—Wax removed from filter at −50° Fahrenheit.

ANSUL JOBBERS are ready and equipped to render an intelligent, co-operative service to refrigeration engineers and maintenance men on problems which arise from time-to-time in the operation of refrigerating systems.

FOR EXAMPLE:

Samples of ice machine oils, submitted by users of Ansul Refrigerants to Ansul Jobbers, are tested by Ansul laboratories without charge by the Ansul Standard Wax-Oil Separation Method. This approved method, developed and standardized especially for use in connection with oils used in refrigerating systems, provides an accurate determination of the amount of wax which separates from an oil at low temperatures. *REG. U.S. PAT. OFF.

SEND FOR THIS BULLETIN

An informative reprint, "THE SEPARATION OF WAX FROM OIL-REFRIGERANT MIXTURES," will be sent on request. No obligation. Just address...

REMEDIES

To eliminate the wax trouble in expansion valves and coils:

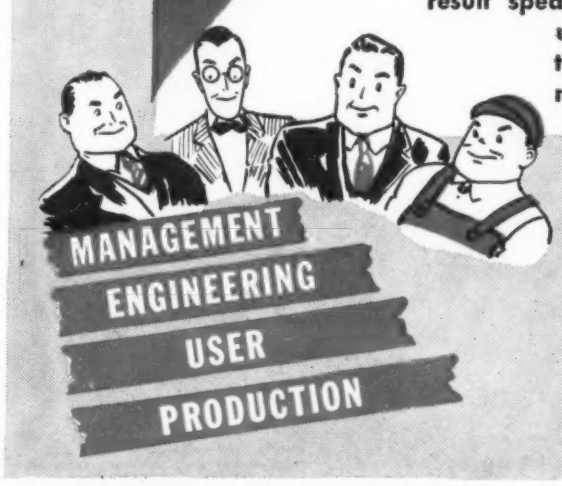
1. Use an oil which separates little or no wax from its mixture with the refrigerant at the operating temperature of the valve.
2. Install an oil trap to cut down the amount of oil (and consequent wax) circulating with the refrigerant.

ANSUL CHEMICAL COMPANY
REFRIGERATION DIVISION, MARINETTE, WISCONSIN
DISTRIBUTORS FOR KINETIC'S "FREON-11," "FREON-12," "FREON-21," "FREON-22" AND "FREON-113"

Little (big) Brute by the "Lehigh Team"

HEAVY-DUTY USEFULNESS WITH "PACKAGE" PROPORTIONS

What's the secret? Know how! There are twenty-five distinct and outstanding manufacturing and design features involved in the production of "M&E" Lehigh Condensing Units. This processing bridges every step from making our own better castings to final super-testing. The result speaks for itself in the smooth, powerful operation of these units in a wide variety of commercial uses. Complete line to include 1/4 to 5 H.P. Models. Data sheets on current models mailed on request.



The "Lehigh Team" —

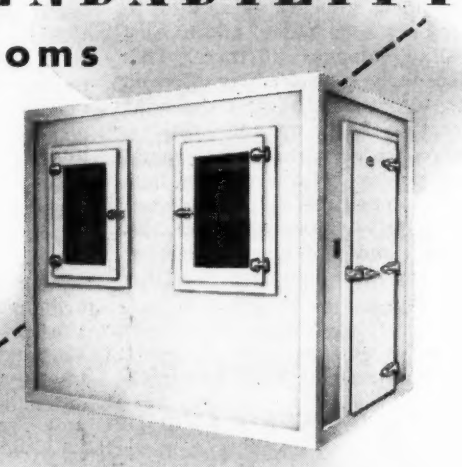
The power behind the throne! A smooth working combination consisting of responsible and far-seeing management, highly trained and long experienced engineering, and loyal, capable plant personnel — all interested in VOLUME PRODUCTION of America's Finest Condensing Units. The smile on the LEHIGH "M&E" USER says we are doing it!

"M&E" REFRIGERATION DIVISION
LEHIGH FOUNDRIES, Inc.
LANCASTER, PENNA.

CONSTANT DEPENDABILITY

in Walk-in Cooling Rooms

Because they are well-built in every detail and equipped with balanced coils and condensing units, they assure market operators of thoroughly dependable performance in the storage of perishables.



One member of a complete quality line . . . designed to be salable in volume at a profit.

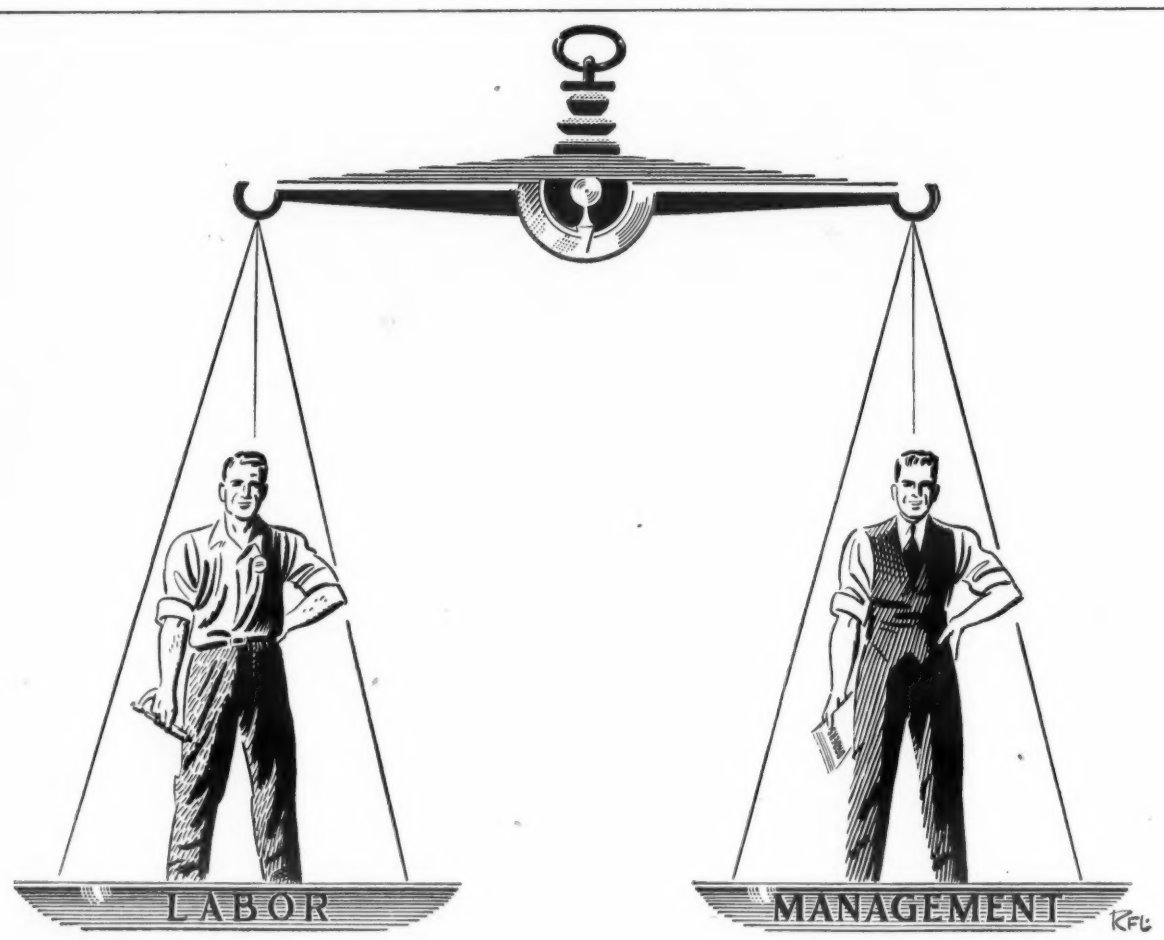
SHERER

COMMERCIAL REFRIGERATORS

SHERER-GILLETT CO., Marshall, Michigan

VEGETAIRES • DAIRY CASES • REACH-IN REFRIGERATORS • WALK-IN COOLING ROOMS • MEAT & DELICATESSEN DISPLAY CASES •

Have You Ordered Your Copy of the 1946 Refrigeration & Air Conditioning Directory? . . . . Price $1



"In Balance"

● Hupp is a contract manufacturer.

The record of Hupp as such is evidenced by its service during the war and now to many outstanding manufacturers of different industries.

Hupp believes in giving credit where credit is due. In a considerable measure, Hupp's achievements in meeting production schedules as required by the customer are reflected in the cooperation and basic understanding of its men and women workers who are members of CIO UAW; in the loyalty of its supervisors and foremen; in the ability of its engineers and other key personnel.

During the war and since, not a day was lost in a Hupp plant by a work stoppage. The policy at Hupp is to maintain its labor relations in a fair and equable balance. Differences are settled around the conference table while production continues, for all parties recognize that there is also present at every conference a customer and a public interest.

While this message is a tribute justly due the Hupp operating personnel, it is likewise important for those who are considering Hupp as a source to know some of the reasons why Hupp is a *dependable* contract manufacturer.

For stabilization of your own production—CALL HUPP, AN EXPERIENCED CONTRACT MANUFACTURER.

HUPP
MOTOR CAR
CORPORATION
★
HUPP MACHINING DIVISION • DETROIT
GLOBE STAMPING DIVISION • CLEVELAND

ONE IN A SERIES OF ADVERTISEMENTS PRESENTING THE HUPP PLAN FOR INDUSTRIAL STABILITY

Westinghouse Announces 3 Maintenance Plans to Service Fractional H.P. Motors

PITTSBURGH—To provide 100% service coverage for all fractional horsepower motors, three service plans—the motor exchange plan, the shop repair plan, and the national service plan—have been announced by Westinghouse Electric Corp.

The first of these, the motor exchange plan, has been inagurated for immediate replacement of certain specified sizes and types of standard and special fractional horsepower motors and Type CR 1 to 3 hp. motors with waste-packed bearings.

Under this exchange plan, the user brings the inoperative motor to the dealer who exchanges it for a factory rebuilt motor with a factory warranty. The dealer, in turn, sends the old motor to the nearest Westinghouse district manufacturing and repair shop.

There are throughout the country 34 Westinghouse M. & R. shops for the dealer's convenience, the booklet states. Type CR motors may be exchanged by the dealer at but 17 of these which are so designated.

Covering all conditions for fractional horsepower motors, there are four classes of exchange. They are:

Class 1, when the returned motor has failed under conditions constituting a breach of warranty and is exchanged for a motor of the same rating and construction;

Class 2, when the returned motor has failed outside the warranty period, but within five years of the date of manufacture, and is exchanged for a motor of the same rating and construction;

Class 3, when the returned motor has failed after five years but within 10 years of date of manufacture and is exchanged for a motor of the same rating and construction; and

Class 4, covering the outright purchase of available exchange motors, restricted to purchasers accumulating initial stocks for operation of a supplemental exchange plan in their own distribution channels.

ONLY SHIPPING CHARGE MADE

If a Type CR 1 to 3 hp. motor becomes inoperative within its warranty period of one year, states Westinghouse, no charge other than shipment expense is made. If, however, a motor is outside its warranty limit, replacement charge is made on the basis of (1) minor repair, (2) major repair, or (3) complete rebuilding.

For each horsepower rating and repair class a definite price is fixed, standard at all M. & R. shops where such motors are serviced.

Benefits obtained from this plan by the dealer are enumerated, as follows: 24-hour or less replacement service anywhere in the United States; each rebuilt motor is factory warranted, like a new motor; simplifies servicing for distributor; builds goodwill and saves money for the dealer; saves delay for appliance user; eliminates motor repair problems for your organization; and reduces over-all production cost.

The shop repair plan is a complete motor repair and rebuilding service available through all Westinghouse M. & R. shops on inoperative motors of a special type, for example, standard or low activity motors not covered by the motor exchange plan discussed previously, or on motors of competitive makes.

Under this plan the motor is presented at any Westinghouse M. & R. shop by either user, dealer, distributor, or manufacturer where it will receive factory-type reconditioning at standard predetermined prices. Repairs in this category are backed by large scale factory rebuilding facilities at five specially equipped Westinghouse shops in Springfield, Mass., Atlanta, Chicago, Houston, and Los Angeles.

Complete motor repair flexibility, according to Westinghouse, is assured through this plan. Frequently a manufacturer combines this plan with the exchange plan, since it permits servicing of a diversified product line.

WESTINGHOUSE REPAIRS FREE

Here again no charge is made for repairs on Westinghouse motors within the warranty period. A standard fixed charge is made for all other fractional horsepower motors on the basis of speed, frequency, voltage, and type of bearing. Replacement of parts, such as ball bearings, capacitors, and new commutators, are accompanied by contingent price additions. All such repairs are guaranteed for one year.

Benefits derived from this plan, according to Westinghouse, include retention of full control of all motor service activity; lower cost, made possible by group handling and prices fixed in accordance with agreement; complete rebuilding facilities available when required; and faster service with factory type facilities.

Westinghouse Plan Number 3 is a national service plan for fast specialized motor service. It is desirable for all types of fractional horsepower motors for appliance and machinery manufacturers who wish to retain direct control of all field service activities. Individual service policies are established for each manufacturer using this plan.

An inoperative motor of a predetermined rating is returned to a specified point designated by the appliance or machinery manufacturer under this national service plan. Inoperative motors are accumulated at this point and sent to the Westinghouse M. & R. shop designated in the individual service policy.

ACCELERATED SERVICING

At the M. & R. shop, complete motor repairs are performed at a speed made possible by factory procedure at a standard predetermined charge.

Using this plan, the manufacturer places the motor in the same service category as other wearing parts and assumes the same customer responsibilities.

Benefits of the national service plan are: individualized service; factory warranted repairs; fast service, assured by large volume capacity of plant; standard repair prices at all locations; and lower unit cost.

These three motor service plans are outlined in Westinghouse booklet No. B3711. Additional details on the plans are contained in the Westinghouse *Motor Service Manual.*

WHERE EVERY SERVICE MAN LOOKS FIRST FOR

REFRIGERATION

PARTS & SUPPLIES

WRITE FOR CATALOG

THE HARRY ALTER CO.

1728 S. Michigan Ave. Chicago, 16, Ill.

Two Big Warehouses to Serve You

134 Lafayette St. New York, 13, N.Y.

Refrigeration Problems
And Their Solution

By P. B. Reed

For Service and Installation Engineers

Manager, Refrigeration and Air Conditioning Division, Perfex Corp.

The Low-Side Float Valve (Part 2)

OIL IN THE BOILER AND TUBES

To a greater or lesser degree some oil circulates with the refrigerant. Since only the vapor is passed out through the suction tube the oil would remain in the boiler and evaporator tubes and finally the oil concentration would be so great that there would be little or no refrigeration.

HOW OIL IS REMOVED FROM LOW-SIDE FLOAT USING SO_2

Liquid sulphur dioxide is heavier than oil and like water does not mix with oil. While the compressor is running and the oil and refrigerant are being agitated by the boiling of the liquid, the two do not separate out.

When the compressor stops, the oil rises to the surface and forms a layer on top of the liquid sulphur dioxide. As the evaporator warms up during the off-cycle, it expands, and this raises the liquid level enough that the blanket of oil is raised so that it passes into the suction tube through the small holes known as oil-overflow holes.

A baffle is used to prevent liquid refrigerant from being slopped over into the open suction tube.

SLOPING SUCTION LINES FOR OIL RETURN

With this system it is advisable to have the evaporator at a higher level than the compressor, and to have the suction line gradually slope to the compressor so that the oil will gradually drain back to the compressor by gravity. Otherwise it would stand in pockets or traps in the suction line and, when the compressor started the next time would be drawn back to the compressor in slugs and damage the compressor.

HOW OIL IS SEPARATED

Some refrigerants are "miscible" with oil, that is, they mix readily with oil very much the same as gasoline mixes with oil. If we allow a mixture of gasoline and oil to stand, the oil does not come to the top, so that it can be skimmed off. To recover the oil we would have to let the gasoline evaporate and leave the oil.

This is the principle used in getting oil out of a boiler for a low-side float (or for that matter any "pot") used with methyl chloride, "Freon," Isobutane, or any of the other miscible refrigerants.

In some manner a little of the *liquid* mixture of oil and refrigerant must be lifted out of the boiler, up and over into a coil of continuous tubing in which the refrigerant can be evaporated, leaving the oil. But, in this case it is a continuous coil and the vapor can drag the oil along the inner walls of the tubing and suction line back to the compressor. This coil is called a vaporizer coil or a drier coil. Through it the suction gas passes *after* it leaves the boiler.

If the system is properly designed to give proper gas velocity in the suction line, the suction line need not slope back to the compressor, for the oil comes back gradually and does not pass out of the evaporator during the off cycle as was described above for the low-side float valve with sulphur dioxide.

BUCKET TYPE FLOAT

There are several methods for lifting some of the liquid mixture of refrigerant and oil out of the boiler over into the vaporizer coil. In one, the float is an open top pan or "bucket" instead of a closed ball. When the compressor is running the agitation is so violent that some of the liquid is "slopped over" into the bucket.

The suction tube reaches down almost to the bottom of the bucket and the liquid gathers in the bucket until it gets up to the suction tube and is then sucked into the suction line.

This type may not require a vaporizer coil for the mixture slopped over into the bucket may vaporize there, leaving the oil only. When the oil level builds up sufficiently it will be sucked into the suction line.

OTHER METHODS OF LIQUID PICK-UP

One type used a ventura tube and orifice that picked up liquid and put it into the vaporizer coil. Wicks are led over the side of bucket-floats to supplement the liquid slopped over, or into separate auxiliary cups or similar devices, all of which are for the purpose of picking up some of the liquid oil-refrigerant from the boiler and putting it into the vaporizer coil.

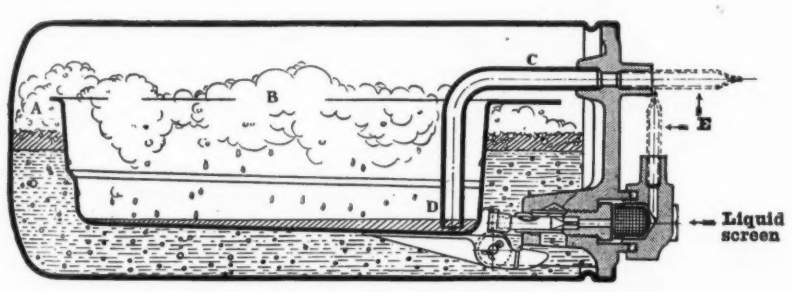


Fig. 3—Bucket type low-side float valve used with refrigerants that mix readily with oil. A. Vapor carrying drops of liquid into bucket. B. Bucket type float. C. Suction tube. D. Open end of suction tube which picks up oil when level rises to it.

Offers
(1) Complete inventory record.
(2) Part nuumbers always visible.
(3) Easily stored in bins or on shelves.

for Conventional and Hermetic Type Compressors

Write for illustrated catalog and price list.

HASCO, INC.
GREENSBORO, N. C.

The Watchdog of the Nation's Food Supply

LARKIN

Refrigeration Products

Humi-Temp Forced Convection Units—Patented CROSS-FIN-COILS—Bare Tube Coils—Zinc Fused Steel Plate Coils—Disseminator Pans—Heat Exchangers—Evaporative Condensers—Instantaneous Water Coolers—

See Your Jobber or Write Direct to

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519 Memorial Drive, S.E., Atlanta, Ga.

Members of the Refrigeration Equipment Wholesalers Association

Your refrigeration parts and supply house in Central New York and Northern Pennsylvania

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CENTRAL SERVICE SUPPLY CO

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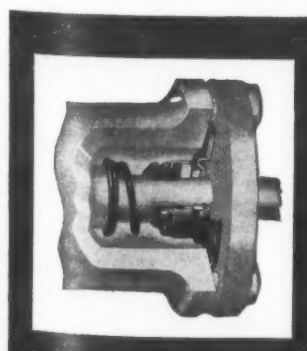

ROTARY SEAL REPLACEMENT UNITS
for
Refrigerator Compressors

Available for Over 752 Models of Refrigerating Assemblies.

Rotary Seal has pioneered in the manufacture of mechanical shaft seals. Because of this specialization it offers the best in shaft sealing.

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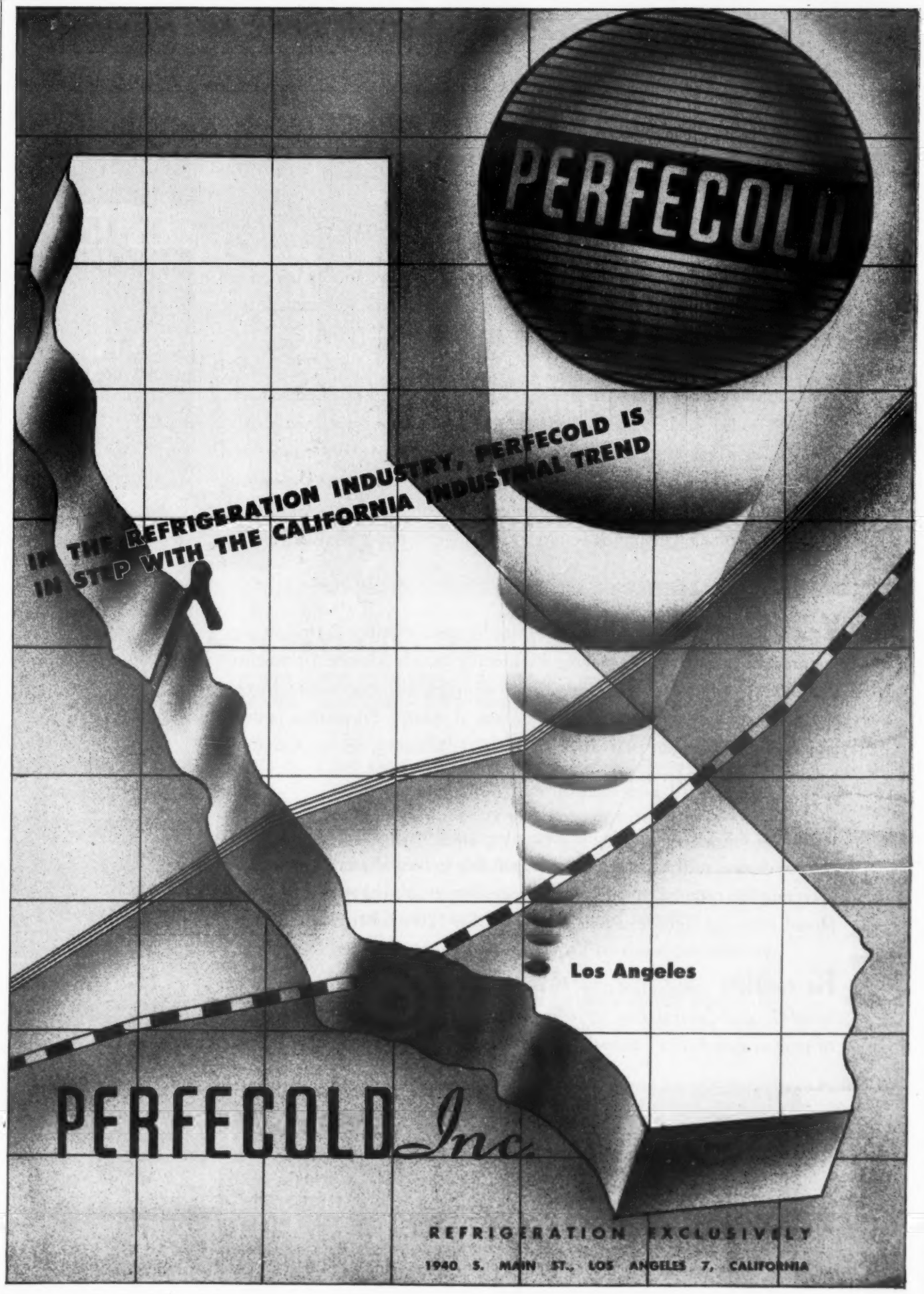
Canadian Office: 382 Victoria Ave., Montreal 6, Canada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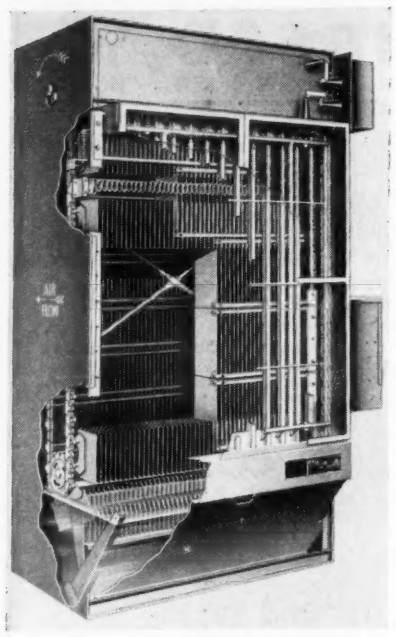
IN THE REFRIGERATION INDUSTRY, PERFECOLD IS IN STEP WITH THE CALIFORNIA INDUSTRIAL TREND
Los Angeles
PERFECOLD Inc.
REFRIGERATION EXCLUSIVELY
1940 S. MAIN ST., LOS ANGELES 7, CALIFORNIA

What's New

American Electrostatic Filter Is Self-Cleaning



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LOUISVILLE, Ky. — An electrical precipitating air filter which incorporates a self-cleaning design has been introduced as Model E Electro-Matic by the American Air Filter Co., Inc. This self-cleaning feature, claims the company, eliminates the necessity of shutting down the filter for manual cleaning and minimizes the need for personal attention.

In application, the self-cleaning design operates, as follows, the company claims: positive or charged collector plates are stationary, supported on heavy insulators affixed to the end plates of the filter housing, and the negative or grounded collector plate assemblies are mounted on two endless chains which rotate over top and bottom sprockets to form a continuous movable curtain.

The lower part of this curtain is submerged in an oil bath through which it rotates to remove the dust deposit on the negative plates. The dust that is collected on the stationary or charged plates is removed by a wiper mounted in the rotating curtain.

This wiper, it is claimed, is cleaned as it passes through the oil bath which removes the tarry residue from the negative plates. Another wiper is provided in the oil reservoir.

Dust and dirt settle to the bottom of the reservoir as sludge which is removed when it has reached a depth of 2 or 3 in. by means of a scraper designed for this purpose. The scraper is placed in a sludge pan which engages the front edge of the resevoir holding the cover in an open position. This permits the operator complete freedom in using the scraper, it is claimed.

Operating at a face velocity of 500 f.p.m., the Model E Electro-Matic air filter is said to have an efficiency of 85% by the discoloration test method, and at 400 f.p.m. its efficiency is reported at 90%. The filter uses full height ionizers, reducing power losses to a minimum due to few wire ends, the company claims.

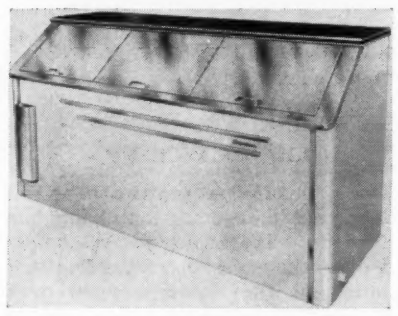
A self-contained, vacuum tube rectifier power pack provides the necessary voltages for the ionizer and collector plates. Alternating current of 115 volts is transformed to the required voltages and then converted into direct current by means of the power pack.

Arid-Air Bottle Cooler Line Includes 4 Models

MINNEAPOLIS — A new line of "Arid-Air" bottle coolers has been introduced by American Refrigerator & Machine, Inc., in line with the company's expansion plans, announces R. W. Dreher, president.

The Arid-Air line includes 6, 8, 10, and 12-ft. models. The 6-ft. model, having a capacity of 504 12 oz. bottles, features sliding, disappearing, stainless steel doors, adjustable-removable partitions, and forced-air circulation designed to cool top bottles first. OPA-approved price of this model is $450 with remote installation extra, or $669 self-contained.

* * *



This 6-ft. Arid-Air dry bottle cooler has a capacity of 504 12 oz. bottles.

Manufacturer of walk-in coolers, and farm, home, and commercial freezers, in addition to the new line, the company is now ready to begin work on the continuation of its new University avenue plant. Cost of the second unit is estimated by the company at $135,000.

Previous factory facilities will be more than doubled, according to plans, as the combined buildings will provide more than 50,000 ft. of floor space on a single floor.

Deliveries are being made to distributors already selected, and dealers in other areas are being chosen, the company announces.

Ebco Introduces New Oasis Water Cooler

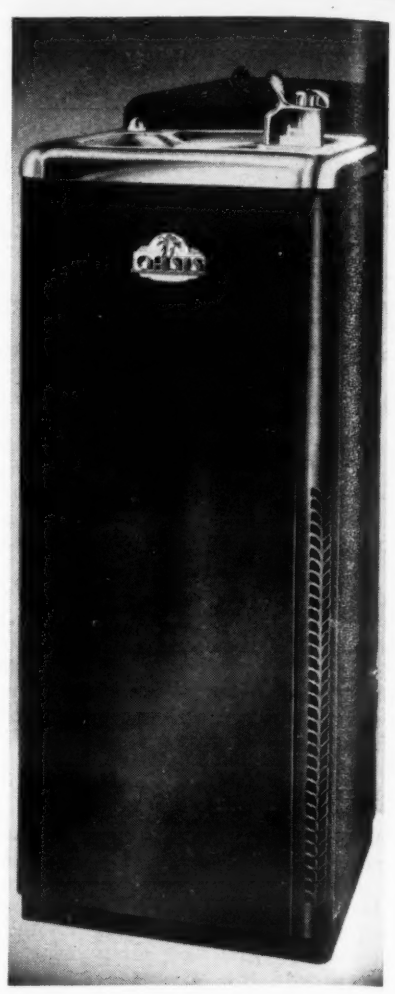
COLUMBUS, Ohio—Model OP-10, a water cooler with a vent grille perforated in each front corner to provide maximum condensing unit cross-ventilation, has been designed by the Oasis Cooler Division of the Ebco Mfg. Co. here.

Styled along modern lines, the one piece cabinet is made of heavy gauge galvanized and bonderized steel with wrap-around, welded construction. The entire front panel is removable, permitting easy access to condensing unit, control, and relay.

A removable cover cap for the addition of a glass-filler in the field is situated on the top, the piping already installed and connected inside the cooler. The angle-stream bubbler, it is said, has a self-closing valve and an automatic stream control that is accessible for regulating the height of the bubbler stream. A full flow of water is provided at any stream height, the company claims.

The pressure tank is made of copper alloy plus a tin alloy coating, the flattened spiraled copper refrigerant coils bonded to the outside of the tank.

Equipped with Ebco's patented by-pass relief, bursting or distortion of the tank is prevented in the event of a mechanical freeze-up. An ample-sized heat exchanger, according to the company, is also included.



* * *

The cooling unit compartment contains the low side pressure storage tank, the pre-cooler, and the heat exchanger. These parts are insulated with a minimum of 2½ in. ground cork and sealed with hydrolene, it is claimed.

Controlled by a non-adjustable capillary tube, the liquid refrigerant maintains the water temperature by an "on-and-off" adjustable thermostatic switch located behind the front panel of the cabinet.

Pre-cooler is of the waste-water type constructed of copper and brass on the counter-flow principle. The warm inlet water flows in through a spiral tubing, explains the company, over which the waste water runs.

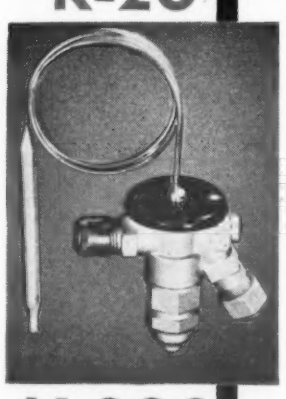
Hermetically sealed, the "Freon-12" condensing unit is powered by a ⅛-hp. single cylinder motor. The condenser is of the finned-tube type, forced air-cooled, with a sealed fan motor of the suction type, it is claimed.

All parts of the unit are sealed in oil at the factory, thereby requiring no field lubrication.

For Efficient Refrigeration Use Proved and Improved Controls

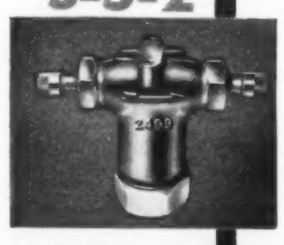
K-15

K-20



V-200

S-5-2



S-5-3

Here is efficient, unsurpassed refrigeration equipment. Specifically designed for the control of Freon, Sulphur-dioxide, Methyl-chloride and Ammonia. Also air, water, gas, light oil, etc. Suction lines or hi-pressure liquid lines.

K-15 and K-20 Series. Magnetic liquid and suction stops. The direct acting single seated needle valves and the piloted piston valves respectively. All valves are held open electrically, thus eliminating unnecessary compressor burdens. Tight shut-off for fractional tonnage installations. Features are Die-forged bodies, Hardened steel needles, Corrosion-proof internal parts, Gasketless construction, Integral mounting features, Moisture-proof high pressures. Single or dual voltage coils.

V-200 Thermal Expansion valve. Interchangeable Orifice Cartridges permit proper sizing on the job, making this literally six valves in one. Unmatched sensitivity, semi-liquid charged; may be placed in ambient temperatures higher or lower than bulb temperatures with no loss of control. Frictionless pusher-pin, ample diaphragm, plus balanced, low-rate adjusting spring. Carefully lapped hard-faced ball insures tight shut-off.

Strainers S-5 Series. The importance of suitable strainers ahead of a flow control device, such as automatic or regulating valves of any kind for long operating life, cannot be too heavily stressed. Bronze, iron or semi-steel bodies, Monel, reinforced bronze or felt screens, 3/16 to 120 strainer meshes.

For complete *specifications on these and other refrigerant controls in the broad General Controls line, write for the new 1946 Catalog 52C. Send request to your nearest Factory Branch, Distributor or Refrigeration Supply House.*

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31-1

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All porcelain exteriors and interiors. Equipped with patented and exclusive features.

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GRAND HAVEN, MICHIGAN, EST. 1898

Keps Electric Co. Buys Stern-Kay Distributors

PITTSBURGH—In an effort to enlarge its activities to offer complete service to dealers throughout this area, the Keps Electric Co. has purchased the Stern-Kay Distributing Co., which handled Admiral refrigerators, home freezers, and electric ranges, and other makes of appliances, announced Edward J. Kelsky, president.

Harold Kay, one of the owners of Stern-Kay, has joined the Keps firm as vice president in charge of the household appliance division. Following extensive alterations at the Keps Electric Co., the new division will conduct its business at Keps headquarters, Mr. Kelsky concluded.

Wholesale Ceilings Set On 3 Edision G-E Models

CHICAGO—Approval of wholesale ceiling prices for three models of refrigerators manufactured by Edison General Electric Appliance Co. was recently granted by OPA.

Order 10, MPR 598, prescribes the following ceilings for sales by distributors to dealers:

Model	Servicing dealers	Non-servicing dealers
EA7-1-46	$106.77	$114.17
EB7-1-46	117.67	125.07
EC7-0-46	128.13	135.53

These prices, f.o.b. the distributor's warehouse, include the Federal excise tax and the four-year replacement contract, according to the order. Distributors are authorized to add $3.25 for a refrigerator equipped with a left door.

Arkansas Electrical Appliance Firm Opens Osceola Branch

BLYTHEVILLE, Ark.—The City Electric Co. of Blytheville, Ark., has established a branch electrical appliance store at Osceola, Ark., it has been announced by C. V. Sebaugh, owner.

Moroughan Heads Section Of G-E New Jersey Branch

BLOOMFIELD, N. J.—Donald M. Moroughan has joined the North Jersey Appliance Distributing Branch as manager of the apartment house and builders' sales section, General Electric Co., Branch Manager J. C. Saur has just announced.

Mr. Moroughan began his career in the electrical field in 1925, becoming a salesman in 1929, rising to sales supervisor by 1932. For the next 10 years, Mr. Moroughan kept pace with a rapidly growing industry as sales supervisor for utilities in New York state as well as the state of Pennsylvania.

New Tub Shipment Permits Washer Output To Resume

RIPON, Wis. — After several months of assembling Speed Queen washing machines without tubs and piling them up in warehouse space, due to a prolonged strike at the Geuder, Paeschke, Frey tub plant in Milwaukee, Barlow & Seelig again resumed production of complete washing machines recently upon receipt of the first shipment of tubs from a new supplier in Des Plaines, Ill., announced P. J. Daniels, director of sales.

In view of the tremendous backlog of orders on hand and the production limitations, shipments to dealers will have to be on a restricted allocation basis, said Mr. Daniels, who went on to say that dealers should not, therefore, set their expectations too high. Limited supplies of materials and component parts may still prevent full production for several months to come.

Barlow & Seelig expects shipments from tub supplier to resume soon.

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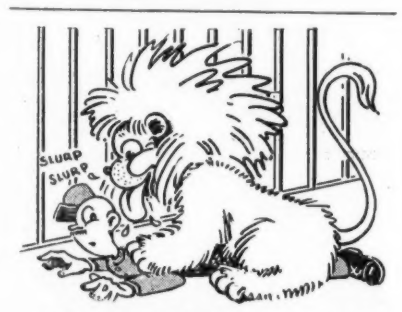
WATER DEFROST

REFRIGERATION ENGINEERING Inc.
LOS ANGELES • CALIFORNIA



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WOLVERINE TUBE DIVISION
Calumet & Hecla Consolidated Copper Co.
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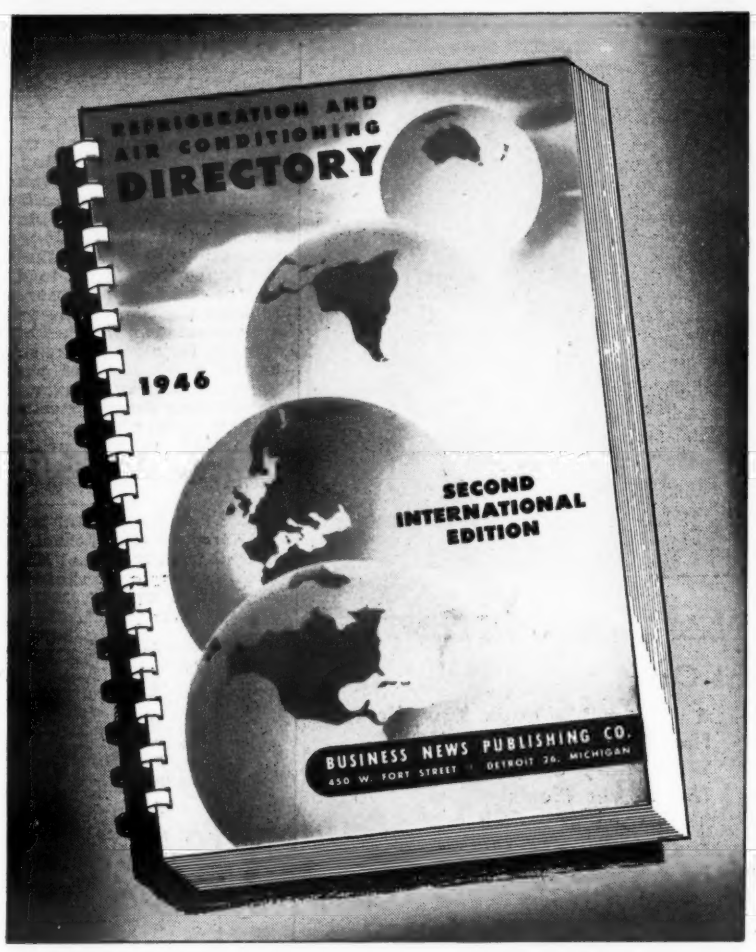

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THE first postwar edition of Refrigeration and Air Conditioning Directory—to be published soon—will prove of tremendous significance to everyone in the industry.

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THE usefulness of this directory as an advertising medium cannot be equaled, for a full page message that will "live" a year and be referred to constantly, costs you only 66¢ per day to keep in contact with 28,000 prospects. Guaranteed circulation of 28,000, including manufacturers, distributors, jobbers, dealers, servicemen, engineers and importers, large and small.

IF you have anything to sell to the refrigeration and air conditioning industry, place your sales message in this directory. Some choice positions are still obtainable . . . write or wire for rates and reservation.

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Rates for Second International Edition, 1946.

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1 page	200.00
½ page	125.00
¼ page	65.00

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¼ page	4½	2	2⅛	4⅛

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Closing Date

April 15, 1946.

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Editor—Frances A. Weed
Advertising Representative—Robert M. Price

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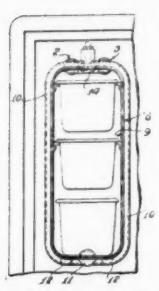
PATENTS

Week of March 5

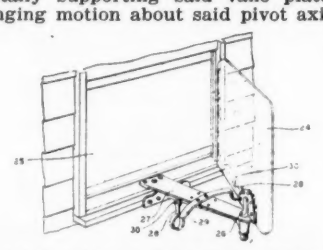
2,395,839. EVAPORATOR UNIT. John H. Benson, Salem, Ohio, assignor to Mullins Mfg. Corp., Salem, Ohio, a corporation of New York. Application Feb. 20, 1933, Serial No. 657,491. 3 Claims. (Cl. 62—126.)



1. A sheet metal evaporator comprising an outer one piece shell and an inner one piece shell bent to form the side and bottom walls of a sharp freezing chamber, arcuate depressions formed parallel to and spaced from the ends of one of said shells and also spaced from the front and back edges of said shell, said arcuate depressions cooperating with the other shell to form headers located at the ends of the shells but adjacent each other due to the bent form of the evaporator, embossed portions formed in one shell and cooperating with the other to form conduits extending around the side and bottom walls of the evaporator and connecting the two headers, said shells being welded together around the front and back peripheries and across the end peripheries, said arcuate depressions being dimensioned to form headers each of cross sectional area slightly greater than the individual embossed conduits, and a connecting **T** forming a common refrigerant conduit between said two headers, a portion of this connecting **T** being embossed directly from a portion of the sheets between the two spaced headers.

2,395,848. AUTOMATIC AIR CONDUCTOR. Ross M. Clayton, Sr., Asbury Park, N. J. Application May 16, 1945, Serial No. 594,009. 4 Claims. (Cl. 98—44.)

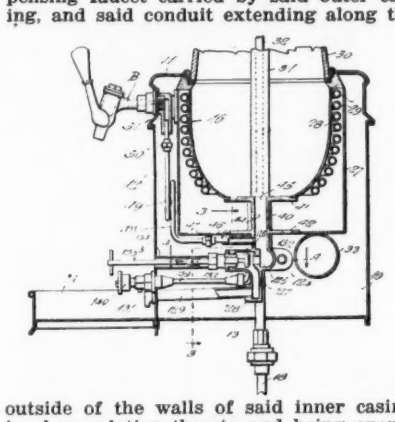
1. An automatic air conductor for deriving and controlling air currents for ventilating purposes in buildings and other enclosures having a ventilating aperture, comprising, in combination, a movable vane plate of the order of the size of said aperture and having a pivot axis extending through said vane plate and off-center between the ends thereof to provide vane arms of unequal lengths on opposite sides of said axis, means pivotally supporting said vane plate for swinging motion about said pivot axis, an



elongated bracket having an inner end adapted to be located adjacent said ventilating aperture, and an outer end carrying said supporting means in spaced relation to the aperture, means upon the inner end of the bracket for detachably mounting said bracket adjacent said aperture and with said vane plate located directly opposite said aperture, an elongated support adjustably carried by said bracket intermediate the ends of the bracket and extending transversely thereto, and two stops carried by opposite ends of said support and located on opposite sides of said bracket in spaced relationship to said pivot axis for limiting the swinging movement of the vane plate to scan the end of the longer arm thereof across the face of said aperture.

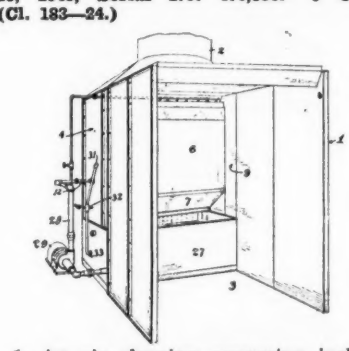
2,395,932. BEVERAGE DISPENSING APPARATUS. Abraham S. Levin, Philadelphia, Pa. Application Oct. 3, 1940, Serial No. 359,611. 7 Claims. (Cl. 225—40.)

1. In a beverage dispensing device, including a counter-carried outer casing, a refrigerating casing inside said first casing and in spaced and insulated relation to said first casing, and means mounting a dispensing container in upwardly spaced relation to the floor of said inner casing; said means including supply and dispensing passages extending through the floor of said inner casing, and a dispensing conduit opening into said dispensing passage outwardly of said inner casing, a dispensing faucet carried by said outer casing, and said conduit extending along the



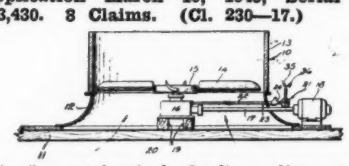
outside of the walls of said inner casing in close relation thereto and being operatively connected to said faucet.

2,395,960. AIR WASHING MEANS. Albert R. Clark, James C. Buck, and Robert V. De Vries, Toledo, Ohio, assignors to The De Vilbiss Co., Toledo, Ohio, a corporation of Ohio. Application Feb. 23, 1943, Serial No. 476,836. 5 Claims. (Cl. 183—24.)



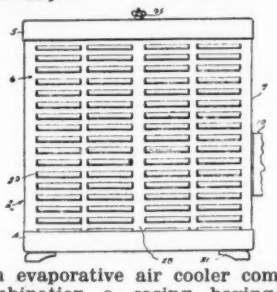
1. An air cleaning apparatus including a vertical chamber formed by a front wall and a rear wall joined by side walls, the lower portion of said rear wall being inclined downwardly and forwardly, a baffle plate extending rearwardly and upwardly from said front wall to form with said portion an entrance throat, means in said throat to introduce water into air passing therethrough, a downwardly inclined intermediate baffle extending a shorter distance from said rear wall than said lower portion thereof, and a second similar intermediate baffle extending a shorter distance from said front wall than said first named baffle plate, baffle means comprising two main flat plates diverging upwardly and outwardly from an apex lying in a line between the lower edges of such pair of intermediate baffles, the diverging plates on each side of said apex cooperating with one of said pair of intermediate baffles, extending from the adjacent wall and said end walls to form a passage rectangular in cross section, and a vertical panel spaced above said baffle means and dividing the upper portion of said chamber into vertical passages.

2,395,995. VIBRATION-RESPONSIVE CONTROL FOR COOLING TOWER FANS. David B. Dewey, Pasadena, Calif., assignor to The Fluor Corp., Ltd., Los Angeles, Calif., a corporation of California. Application March 19, 1945, Serial No. 583,430. 8 Claims. (Cl. 230—17.)



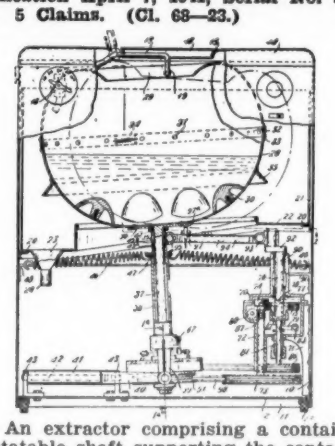
1. In mechanical draft cooling equipment of the character described including a fan for creating a flow of air, a ring at the outside of said fan and a motor for driving the fan; the combination comprising a control at the outside of said ring and responsive to vibration to interrupt the operation of said motor, and means for transmitting bodily vibration of the fan to said control.

2,396,024. EVAPORATIVE COOLER. Leo V. Seaman, Phoenix, Ariz. Application Oct. 16, 1943, Serial No. 506,620. 8 Claims. (Cl. 261—30.)



1. An evaporative air cooler comprising in combination a casing having interchangeable evaporating panels and a vent panel and a blower, said blower having a discharge outlet, a blower supporting frame within the casing and means for adjustably mounting the blower within the supporting frame to direct the outlet of the blower in accordance with the selected position of the vent panel of the casing said means including spaced inwardly facing convex supporting shells having a plurality of perforations forming vents and an annular positioned channel on their inner opposite faces, together with a blower casing having end plates removably attached within the annular positioning channel of said supporting shells.

2,396,105. LAUNDRY MACHINE. James B. Kirby, West Richfield, Ohio, assignor to The Apex Electrical Mfg. Co., Cleveland, Ohio, a corporation of Ohio, as trustee. Application April 7, 1941, Serial No. 387,207. 5 Claims. (Cl. 68—23.)



1. An extractor comprising a container, a rotatable shaft supporting the container on the upper end thereof, the lower end of the shaft being flexibly mounted to permit the shaft and container to precess in response to rotation of the shaft and container about the shaft axis, a power driven disc rotating on a fixed axis, a rod mounted for reciprocation and operably connected at one end to the extractor shaft to be actuated by precessional movement only of the shaft, a member carried by the rod and engaging said disc, said member being movable across the axis of said disc and being coaxial with said shaft when the extractor shaft is centered, the rotation of said disc being at a speed higher than the precession speed of the extractor shaft and in a direction effective to accelerate precession and thereby center the extractor shaft.

2. In a combined washing and extracting machine, a container adapted to hold clothes and washing fluid, a supporting shaft for the container, means for oscillating the container about a generally horizontal axis to effect washing, means to rotate the container and shaft at high speed to effect extraction, mechanism to prevent excessive precessional movement of the shaft while the container is being accelerated through a critical speed with an out-of-balance load comprising friction drive means for accelerating the precessional movement by applying a force normal to the shaft adjacent to the container in the path of the container and shaft precession.

AVAILABLE FOR LICENSING OR SALE

Pat. 1,985,050. AIR CONDITIONING SYSTEM. Patented Dec. 18, 1934. System uses a mixture of fresh and reused air, a portion of which is passed through a dehumidifier where it is reduced in wet bulb temperature by refrigeration, later passing into a second chamber where it is mixed with the remainder of the original mixture, then filtered. The moisture of the mixture is either reduced or left unchanged by a set thermostat and a hygrostat positioned in the duct so that the proper wet bulb and dew point temperature of the air may be attained. Several other processes are utilized to heat the air, etc., to establish and maintain desirable air conditioning. (Co-owner) Capt. Andre Merle, CE, 8 Edgewater Drive, Edgewater Beach, Md. Group 35—84. Reg. No. 2,367.

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RATES for all other classifications $5.00 per insertion. Limit 50 words.

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CALIFORNIA DEALERS: Available—man experienced in installation and service on all commercial and household refrigeration and air conditioning, ⅛ to 500 tons. Builds household deep freezers. Married, three in family. Age 40, no liquor. Can manage shop. Complete set of tools. Write ED FELVER, P. O. Box 606, Falfurrias, Tex.

AVAILABLE NOW: 18 years experience in refrigeration and air conditioning. Broad experience in application and sales engineering; thoroughly familiar with commercial and industrial service work, test laboratory, locker plant design, and construction. Prefer west or southwest. Field position as factory representative requiring engineering knowledge preferable. Box 1950, Air Conditioning & Refrigeration News.

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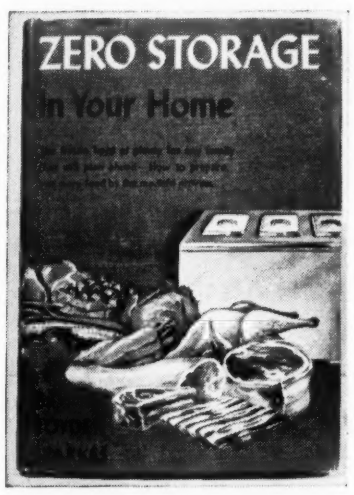

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TABLE OF CONTENTS

Part One

1. *A Grocery Store in Your Home*
2. *The Freezer in City Homes*
3. *What Does a Freezer Cost?*
4. *The Locker Plants*
5. *Mrs. Spencer's Acre*
6. *The First Freezer in Kalamazoo*
7. *Emphasis on Better Eating*
8. *The Fyler Family*
9. *Revolution in Connecticut*
10. *What Is Security?*
11. *Progress from Poverty*
12. *Sharing the Work*
13. *Yesterday's and Tomorrow's Freezer*

Part Two

14. *Operation and Care*
15. *Equipment for Quick Freezing*
16. *Planning*
17. *Fruits*
18. *Vegetables*
19. *Meat and Poultry*
20. *Fish and Game*
21. *Dairy Products and Eggs*
22. *Cooked Foods*

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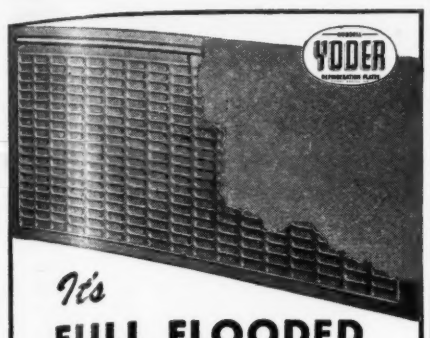

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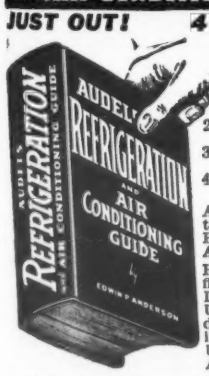

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THE COLD CANVASS

Jottings from Notebooks of the Staff

Contractor Airs Problems Of Job-Training

The Veterans Administration is rightfully "cracking down" on abuses in the job-training and vocational school programs for GI veterans (see story on page 1). But some refrigeration contractors who have made an honest effort to provide on-the-job training for veterans point out that they are buying a lot of headaches for themselves without much hope of any direct immediate benefits.

Says one such contractor, who has had considerable experience with the job-training program:

"If you survive the union opposition to the program—

"—if the boys stick it out long enough to really learn something—

"—you've still got a dead weight on your hands for at least six months.

"And after that, you may find that the man doesn't fit into your organization, or that he becomes dissatisfied with the idea of working for somebody."

* * *

The refrigeration and air conditioning industry continues to be a magnet for the GI who's looking for a new career. One manufacturer relates that he continues to receive dozens of letters, which say in effect:

"Can you send me some literature or technical bulletins about your equipment. I worked with it while in the Service, and I thought it was swell. I think I'd like to get into the refrigeration business someplace."

* * *

Speaking of a Need For Cooperation...

Best story to illustrate a point that we've heard in some time was Ed Graff's in his talk to the Canadian Refrigeration Convention on the subject of cooperation. Ed said that he saw the following headline in a newspaper last year when DeGaulle was still head of the French government:

DeGAULLE APPOINTS 8-MAN COMMITTEE TO INCREASE POPULATION OF FRANCE BY 3 MILLION PERSONS

"Now there," said Ed, "were some men who really needed cooperation!"

* * *

Shortages in Canada, Too

The Canadians are hit by shortages, in some instances perhaps not so badly as the citizens of the U. S., in other cases they're worse off. On refrigeration equipment they're perhaps in a little better shape, probably because they haven't had the labor difficulties. But meats, butter, and clothing seem shorter than they were in wartime.

* * *

Capillary Tube Still Sets Up Arguments

The subject of capillary tubes as a refrigerant metering device continues to be a hot one, as judged by discussions in the rooms and during the technical sessions at the Canadian convention. The old questions of the type and size of systems on which the capillary tube can be used, the problem of the critical nature of the refrigerant charge, etc., were debated rather heatedly in a couple of private sessions.

Then Ed Graff, speaking on the general subject of service, threw fuel on the fire when he said:

"I have yet to find anyone who knows anything specific about the application of capillary tubes at low temperatures."

To which Larry Larsen and Frank Purcell of Tecumseh Products Co. somewhat took exception.

Sometime in the not too distant future we hope to publish an article that will serve to clear up some of the questions about the use of various types of refrigerant metering devices.

* * *

Strikes Sounding an End To 'Seller's Market'

Recently returned from a swing through the Midwest, Gerald Hulett, vice president of Electromaster, Inc., believes that the "seller's market" so widely predicted for this year is rapidly vanishing.

Distributors and dealers are of the opinion that the shrinkage in savings, caused by the recent wave of "enforced idleness" for many workers, will retard retail sales for many months.

With production schedules planned to furnish the market with the greatest quantity of merchandise since 1941, the reduced buying interest will make it all highly competitive, Mr. Hulett declares.

* * *

Oh They Can, Can They?

The grapevine about further price increases on appliances is that manufacturers and distributors have about reached the limit of their ability to absorb added costs or price increases, but that retailers still have some "further margin for absorption."

Our hunch is that the first reaction of most retailers to that thinking would be generally unprintable.

* * *

Salesmen 'Organize' Too With National Council

Everybody else is doing it—so why not salesmen? So they did it. The new National Council of Salesmen's Organizations held its first business meeting in New York earlier this month.

Harold Giroward, corset salesman who was named president of the group, pledged a vigorous campaign in behalf of all salesmen, particularly those threatened by "unsound buying practices" such as combined buying and vertical set-ups.

Someone must also call a halt to the "present anti-distributor trend among government agencies," said the president. When the wage goes up a lot, the price goes up a little, and the difference comes out of the distributor and dealer.

"How about their ability to pay, in the form of reduced margins? The wholesaler and his salesmen are really in the middle."

Planning to be a clearing house for the activities of local salesmen's groups, the headquarters of the Council are at 11 West 42nd St., New York. G. K. Dahl is executive secretary.

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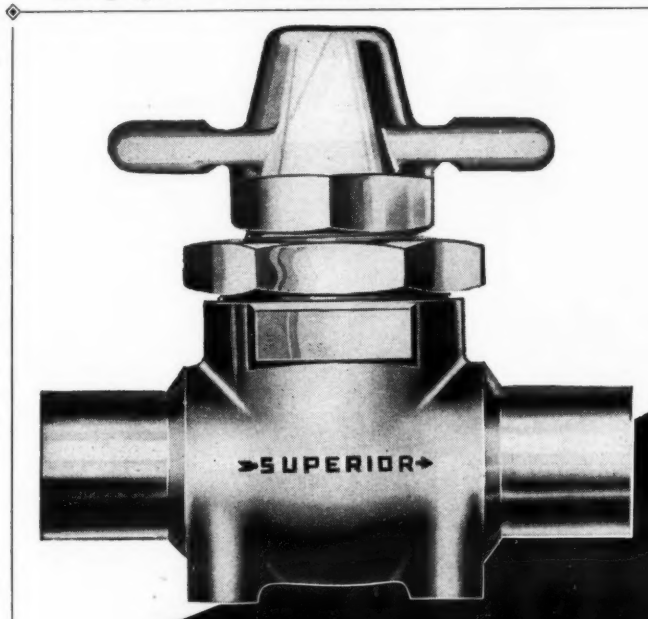

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Supply Problems Evident at Canadian Meeting; Dealers Urged to Tell Story

(Concluded from Page 1, Column 3)

Parish brought out considerable discussion on service problems. Educational films on phases of repair work were also presented.

Heading the officers of the Interprovincial Association who were elected for the coming year during the conference is Gordon Roe of Montreal as president; Al Pike of St. John's, Newfoundland, is first vice president; C. O. Cunningham of London, Ont., second vice president; G. Condie of Toronto continues as treasurer; E. G. McCracken of Toronto was re-elected secretary; A. E. Doan of Toronto is educational chairman; R. Paton of Vancouver, B. C., is sergeant-at-arms.

Retiring president William Sneath of Toronto will serve on the executive board of officers.

NEW DIRECTORS

Fourteen directors were also elected, two from each of six chapters and two members-at-large. J. R. Ross and A. Gendron represent the Mt. Royal chapter; C. Treadwell and L. Mullinger, Nova Scotia; A. Laflamme and G. Larlee, New Brunswick; W. Podd and H. Arthur, Capital City; H. R. Dickieson and H. T. Dowling, Calgary; J. Spence and A. Olmstead, Maple Leaf chapter. F. Chance of Winnipeg and W. Beebee of Fort Williams, Ont., are the directors-at-large.

Three special social events marked the conference. On Sunday night movies were shown, and on Monday there was a luncheon and the annual dinner-dance sponsored by the Ontario Maple Leaf Chapter.

DON'T EXAGGERATE

Speaking at Monday's luncheon, C. E. Graff of Ranco, Inc., Columbus, Ohio, stressed the importance of industry-wide cooperation, particularly in the problem of convincing the average ultimate consumer that his ideas of the "marvels" to come from the refrigeration industry, and the speed with which products will arrive on the market are greatly exaggerated.

"This will lead only to customer ill-will toward the refrigeration industry," declared Mr. Graff.

"The consumer doesn't understand the situation, and while the chief burden of explaining the problem lies with the manufacturer, the manufacturer isn't close to the consumer," he emphasized.

"The man in touch with the trade is the best one to explain the situation, not the manufacturer. Maybe the manufacturer hasn't passed information of his difficulties along to the distribution end of the business," admitted Mr. Graff. "It's up to him to tell everyone along the line just what the situation is."

DEALER FAILURES HURT

Cooperation in the refrigeration industry is needed for other reasons, too, he said. Manufacturers will have to help new dealers and new distributors become established on a sound basis, for the dealer who fails is no asset to the manufacturer whose products he prominently displayed, Mr. Graff pointed out.

"We also need the cooperation of the whole industry to break down the peaks of seasonal sales. There should be just about as many sales of refrigeration equipment in winter as in summer, which would be much more economical for all of us," declared Mr. Graff.

R.S.E.S. A PIONEER

Congratulating the repairmen for having pioneered the formation of the first all-industry refrigeration association through the R.S.E.S., Mr. Graff said it was no compliment to the manufacturers to have had the R.S.E.S. force them to organize.

"We now have such organizations as R.E.M.A., R.E.W.A., R.S.E.S., Nema, and others. Even within R.E.M.A., there has been a growth in the past two years—the development of product groups. We don't talk prices in the product groups, but we have learned that our competitors aren't the so-and-so's we thought they were," he declared.

"Competition can be fair and all will profit, but we must continue to improve on cooperation."

Refrigerated Transport Changes Seen Vital to Frozen Food Progress

CHICAGO—Substantial changes in the design and construction of refrigerated railroad cars are required if transportation facilities are to keep pace with the rapid growth of the frozen food industry, declared Paul B. Reed of Perfex Corp., who addressed the recent meeting of the Chicago Section, American Society of Refrigerating Engineers.

With more than half of the frozen food now being grown and processed on the west coast and more than 60% of the output being consumed east of the Mississippi, it is essential that adequate refrigerated transportation facilities be available, and at present that is the weakest link, said Mr. Reed.

Motor truck lines appear to be making faster progress in providing refrigerated transport, as a considerable number now operating have equipment to produce above or below-freezing temperatures for either fresh produce or frozen foods.

Railroads do provide the largest type of refrigerated transport at present, with more than 30,000 "reefers" in use. Of these, however, only about 1,500 are of the modern type, according to Mr. Reed. Some 3,700,000 new refrigerated cars are now on order for various types of shipper, and the United Fruit and Vegetable Association has been carrying on research aimed at establishing specifications for a new refrigerated car, he said.

MEETINGS FOR THE INDUSTRY

March 27-31, Wed-Sun: 5th annual convention of the Frozen Food Institute. Park Ave. Armory, 34th St. at Park Ave., New York City.

April 2-4, Tues-Thurs: 12th annual sales conference of Edison Electric Institute. The Edgewater Beach, Chicago.

April 21-25, Sun-Thurs: 37th annual convention of National Electrical Wholesalers Association. The Stevens, Chicago.

April 22-27, Mon-Sat: National Plastics Exposition and Convention of Society of the Plastics Industry. Grand Central Palace, New York City.

April 2-5, Tues-Fri: 1946 Packing Exposition. Atlantic City Public Auditorium, N. J.

April 11-26: World's Inventions Exposition. The Chicago Arena.

April 29-May 1, Mon-Wed: 7th annual meeting of Appliance Parts Jobbers Assn. Fort Des Moines hotel, Des Moines, Iowa.

June 3-5, Mon-Wed: Spring meeting ASRE. The St. Paul hotel, St. Paul, Minn.

Minneapolis-Honeywell Reports Biggest Year Ending Dec. 31, 1945

MINNEAPOLIS—During the year ending Dec. 31, 1945, Minneapolis-Honeywell Regulator Co. exceeded its best peacetime year in the production of its regular line of products, according to the company's annual report to stockholders which was issued recently.

The company reported net earnings of $3,436,637 for this period, after providing $8,347,000 for taxes on income, according to the recently issued report. Net earnings for 1944 were $3,239,676, after providing for taxes and allotting $425,000 for contingencies.

The company's net sales during 1945 were $84,392,427, as compared with $89,306,433 in 1944.

The company had reconverted within 90 days after V-J Day, and had attained a production level substantially above that of its prewar operations, according to Harold W. Sweatt, president. In spite of wartime limitations on civilian output during the first half of the year, the organization was able during 1945 to exceed the record of 1941, its best peacetime year, in the production of its regular line, Mr. Sweatt concluded.

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